



# 2N<sup>®</sup> Helios IP

## Door Access Communicator



## User Manual

Version 1.9.0  
Firmware 1.9.x

[www.2n.cz](http://www.2n.cz)

The 2N TELEKOMUNIKACE a.s. joint-stock company is a Czech manufacturer and supplier of telecommunications equipment.



The product family developed by 2N TELEKOMUNIKACE a.s. includes GSM gateways, private branch exchanges (PBX), and door and lift communicators. 2N TELEKOMUNIKACE a.s. has been ranked among the Czech top companies for years and represented a symbol of stability and prosperity on the telecommunications market for almost two decades. At present, we export our products into over 120 countries worldwide and have exclusive distributors on all continents.



2N<sup>®</sup> is a registered trademark of 2N TELEKOMUNIKACE a.s.. Any product and/or other names mentioned herein are registered trademarks and/or trademarks or brands protected by law.



#### Declaration of Conformity

2N TELEKOMUNIKACE a.s. hereby declares that the 2N<sup>®</sup> Helios IP product complies with all basic requirements and other relevant provisions of the 1999/5/EC directive. For the full wording of the Declaration of Conformity see the CD-ROM enclosed and at [www.2n.cz](http://www.2n.cz).



The 2N TELEKOMUNIKACE company is a holder of the ISO 9001:2000 certificate. All development, production and distribution processes of the company are managed by this standard and guarantee a high quality and advanced technical level of and a professional approach to all of our products.

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# 1

## Product Overview

In this section, we introduce the **2N® Helios IP** product, outline its application options and highlight the advantages following from its use.

Here is what you can find in this section:

- Product Description
- 2N® Helios IP Components and Associated Products
- Changes
- Terms and Pictograms Used

# 1.1 Product Description

## Basic Features

---

The **2N® Helios IP door communicator** is capable of replacing the traditional doorbell button panel with a speakerphone and the entire system of wiring, bells and intercom installations in buildings where structured cabling is installed. Its installation is very easy, all you need is connect it to the other LAN elements using a twisted UTP cable.

By pressing any of the quick dial buttons, 2N® Helios IP will set up a call to the number that had been stored in the respective memory. The number of buttons can be extended up to 54 using 8-button or 16-button extending modules.

Thanks to an integrated scheduler it is possible to configure each of the buttons in such a way that the called party is always available.

It is possible to define up to three telephone numbers for each of the buttons, between which 2N® Helios IP switches at absence.

Beside the buttons, you can also use the numeric keypad, which also serves as a code lock. With the use of this keypad you can also use the system as a button telephone. The keypad can be combined with the quick dialling buttons.

2N® Helios IP supports video streaming. This function allows the user to scan the area in front of the 2N® Helios IP camera. Thus, 2N® Helios IP provides better and broader services than a standard house intercom systems. Thanks to the integrated SIP protocol it can make use of all VoIP services, call forwarding at absence (to another office, to the VoiceMail system or a cellular phone) or call switching (from the secretary's office to a specific person, e.g.).

In addition, 2N® Helios IP includes a switch that helps you control the electric lock from any VoIP telephone (by entering the code using tone dialling).

## Advantages of Use

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- Works in the Ethernet network
- Power supply over Ethernet – PoE
- SIP communication protocol
- Integrated web server for configuration
- Up to 54 quick dialling buttons
- Up to 999 users / user groups
- Video (camera-equipped models) streaming
- Display of information (display-equipped models)
- Integrated scheduler with day/night/weekend modes
- Can be used as a standard VoIP telephone and a code lock (keypad-equipped models)



- Modular system – up to 54 buttons + keypad
- Smart design, top material – high-quality stainless steel
- Flat design – can be mounted without wall cutting
- Water resistant
- Perfectly hermetic buttons
- Electronic part completely separated from the name plates
- Electric lock switch – controlled directly from the VoIP telephone
- Quality white backlighting of buttons – white LEDs
- DTMF according to RFC2833, in-band
- High-quality acoustic parameters
- Electronic volume setting (without cover opening) and HandsFree
- Electronic adjustment of backlight

## Optional Accessories

---

### Vandal resistant Mask

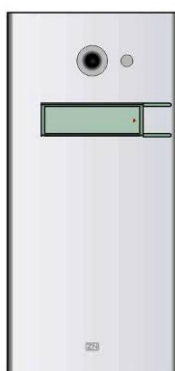
- A robust metal cover for increased resistance against vandalism.
- The cover price includes a steel wall mounting box.
- It can also be purchased additionally.

### Additional switch

- Switching/breaking contact (relay).
- Can be switched on for an unlimited period of time.

# 1.2 2N® Helios IP Components and Associated Products

## Basic Units



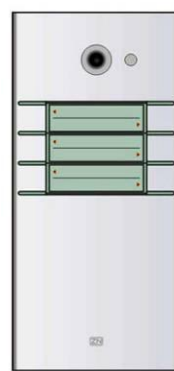
**9137110(C)E**  
**9137111(C)E**

Basic unit  
1 button



**9137130(C)E**  
**9137131(C)E**

Basic unit  
3 buttons



**9137160(C)E**  
**9137161(C)E**

Basic unit  
3×2 buttons



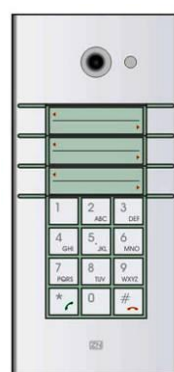
**9137110(C)KE**  
**9137111(C)KE**

Basic unit  
1 button  
+ keypad



**9137130(C)KE**  
**9137131(C)KE**

Basic unit  
3 buttons  
+ keypad



**9137160(C)KE**  
**9137161(C)KE**

Basic unit  
3×2 buttons  
+ keypad



**9137160(C)KDE**

Basic unit  
3×2 buttons  
+ keypad  
+ display

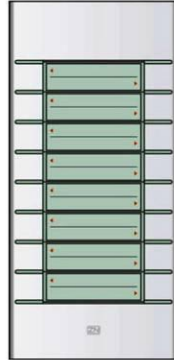
(C) = integrated camera

## Extending modules



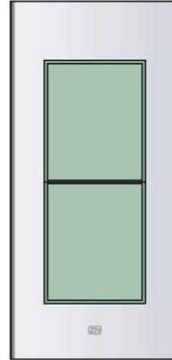
### 9135181E

Extending module  
8 buttons



### 913582E

Extending module  
8×2 buttons

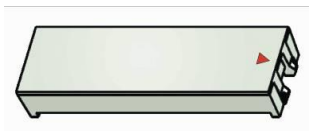


### 9135310E

Info panel

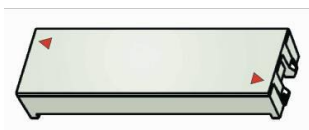
Backlit panel without buttons; used for insertion of a telephone directory, company logo, house number, etc.

## Extenders



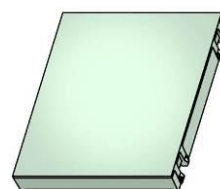
### 9135301E

Spare button name plate



### 9135302E

Spare double-button name plate



### 9135311E

Info panel – name plate

Replacing cover for four name tags. Helps you use a half of the extending module for insertion of a telephone directory, working hours, etc.



### Tips

- All units can be surface mounted without needing any additional accessories.
- To make them even more robust and resistant, use a Vandal Resistant mask.



### Caution

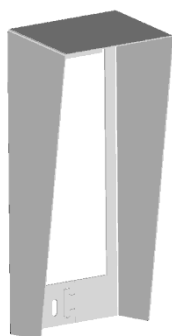
- For flush or outdoor mounting you need to use the accessories; see section Mounting Accessories.

## Software Facilities of 2N® Helios IP Basic Units

	<b>91371x1(CK)</b> 2N® Helios IP Basic	<b>91371x0(CK)</b> 2N® Helios IP Professional
<b>Number of users</b> Maximum number of users – phonebook capacity.	54	999
<b>Number of time profiles</b> Maximum number of time profiles.	3	20
<b>Electric lock codes</b> Maximum number of global codes and user codes for electric lock activation.	2 global, No user codes	10 global, User codes available
<b>Telephone mode</b> Enables 2N® Helios IP to behave as an ordinary telephone – enables phone number to be dialed from keypad.	NO	YES
<b>RTSP server</b> Built in RTSP server for audio and video streaming independently of phone call.	NO	YES
<b>SIP video</b> Supports video calls.	YES	YES
<b>Activation codes</b> Supports codes for activation and deactivation of users and time profiles.	NO	YES
<b>Substitute function</b> Enables to enter a substitute for a user that will be dialed in case that user is unreachable or inactive.	NO	YES
<b>TFTP client</b> Automatic configuration and firmware upgrade from TFTP server.	NO	YES
<b>PoE (Power over Ethernet)</b> 2N® Helios IP can be powered over Ethernet. No other external power supply is needed.	YES	YES

To upgrade 2N® Helios IP Basic to 2N® Helios IP Professional, use the licence key, order. No. **9137901**.

## Mounting Accessories



### 9135331E

Surface 1-module roof

#### Dimensions

103×218×60 mm  
(W×H×D)



### 9135351E

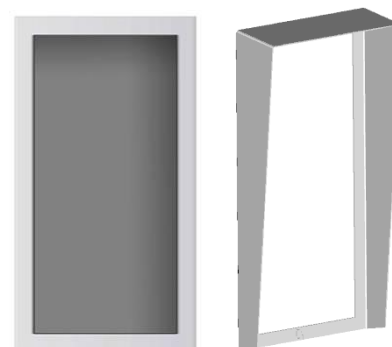
Wall mounting box  
with 1-module frame

#### Dimensions

125×235×46 mm  
(W×H×D)

#### Wall hole

110×220×50 ±5 mm



### 9135361E

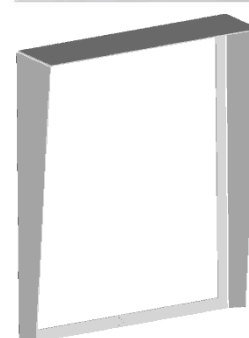
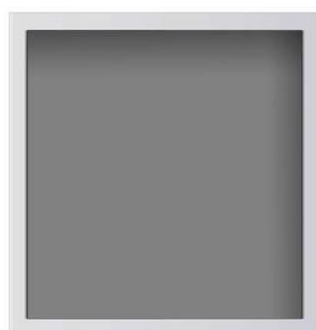
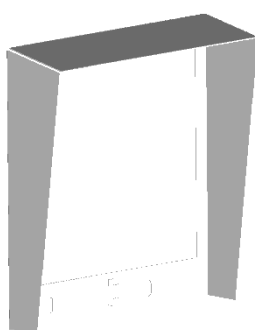
Wall mounting box  
with 1-module roof

#### Roof dimensions

129×240×41 mm  
(W×H×D)

#### Wall hole

110×220×50 ±5 mm



**9135332E**

Surface 2-module roof

**Dimensions**203×218×60 mm  
(W×H×D)**9135352E**Wall mounting box  
with 2-module frame**Dimensions**225×235×46 mm  
(W×H×D)**Wall hole**

210×220×50 ±5mm

**9135362E**Wall mounting box  
with 2-module roof**Roof dimensions**229×240×41 mm  
(W×H×D)**Wall hole**

210×220×50 ±5mm

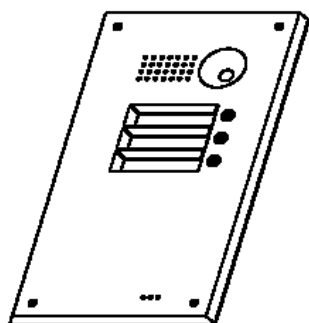
The mounting accessories are made of stainless steel. For outdoor applications, the use of the roof is required unless weather protection is provided otherwise. The box with frame (without roof) allows for installation of 2N® Helios IP in indoor applications so that the unit does not practically stick out (up to 1 mm).

## Increased Resistance Accessories



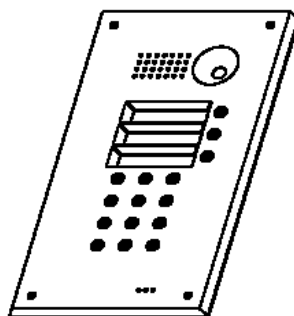
### Warning

- Item No. **9135351E** cannot be used! Use a dedicated box for installation of the Vandal resistant mask!



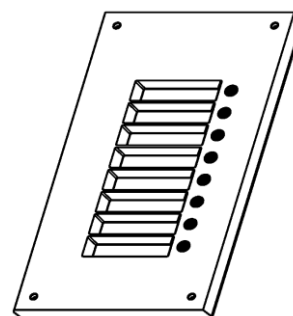
#### 9135511E

Vandal resistant mask basic module + Anti-Vandal wall mounting box



#### 9135511KE

1-basic module Vandal resistant mask with keypad + Anti-Vandal wall mounting box



#### 9135515E

1-extending module Vandal resistant mask + Anti-Vandal wall mounting box



### Notes

- Use these covers to make the basic units or sets with up to 11 buttons more resistant. Larger assemblies can be provided upon request.
- Be sure to use the more resistant version for flush mounting. No roof is required for outdoor applications of this version.

## GSM and UMTS Connection Accessories



#### 505004E

2N® VoiceBlue Lite



#### 505214E

2N® VoiceBlue Enterprise



#### 505612E

2N® UMTS Office Route

## VoIP Connection Accessories

**91378100**

PoE injector

**91378300**

Grandstream VoIP telephone

**91378350**

Grandstream VoIP video telephone

## Electric Locks

**932070E**

BEFO 1211 12V / 600 mA

**932080E**BEFO 1221  
with momentum pin**932090E**BEFO 1211MB  
with mechanical blocking

## Other Accessories

**9137310E**

Additional switch

Additional appliance control,  
switching and breaking contact  
option, time-unlimited connection,  
up to 48 V/2 A.


**91341481E**  
**91341481AU**  
**91341481GB**  
**91341481US**

Adapter 12 V/2 A

A stabilised power supply  
has to be used if the  
Ethernet (PoE) power  
supply is not available.

**932928E**

12 V transformer



# 1.3 Terms and Symbols Used

## Manual Symbols

---



### Safety

- **Always** abide by this information to prevent injury of persons.



### Warning

- **Always** abide by this information to prevent damage to the device.



### Caution

- **Important information** for system functionality.



### Tip

- Useful advice.



### Note

- Additional information.



# 2

## Description and Installation

This section describes the **2N® Helios IP** product and its installation.

Here is what you can find in this section:

- Product Description
- Before You Start
- Mounting – Mechanical Installation
- Mounting – Electrical Installation
- Connection of Extender Units

## 2.1 Before You Start

### Product Completeness Check

---

Please check whether the contents of the package of your new 2N<sup>®</sup> Helios IP complies with the following list.

- 1 2N<sup>®</sup> Helios IP
- 1 installation CD
- 1 spare seal
- 1 drilling template
- 1 hexagonal wrench
- 1 spare name plate
- 1 terminal block plug
- 2 screws
- 2 dowels

## 2.2 Mounting – Mechanical Installation

### Overview of Installation Types

An overview of the installation types and the list of the required components are provided in the table below.

#### Overview of installation types

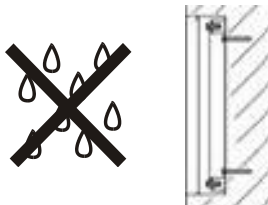
#### What you need for installation

##### Indoor, on surface



**2N® Helios IP** only

##### Indoor, flush mounting

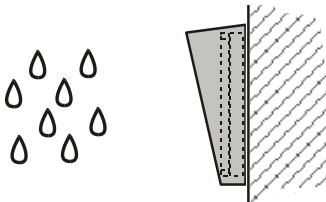


**2N® Helios IP**

box with 1-module frame **9135351E**  
or

box with 2-module frame **9135352E**

##### Outdoor, on surface



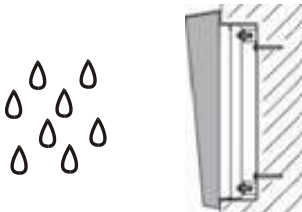
**2N® Helios IP**

Surface 1-module roof **9135331E**

or

Surface 2-module roof **9135332E**

##### Outdoor, flush mounting



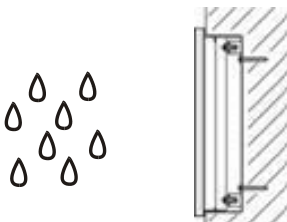
**2N® Helios IP**

Wall mounting box with 1-module roof **9135361E**

or

Wall mounting box with 2-module roof **9135362E**

##### With increased resistance



**2N® Helios IP**

Vandal resistant mask with box, version according to the assembly

## Indoor application means:



Indoor areas with a low relative air humidity (e.g., hallways, offices and other heated rooms).

Indoor areas where **humidity condenses** on walls **but never flows down the walls** (porches, storage areas, industrial areas, e.g.).

Outdoor areas where **protection against rain and water flowing down the wall is provided** (sheds, passages, e.g.).

## Outdoor application means:



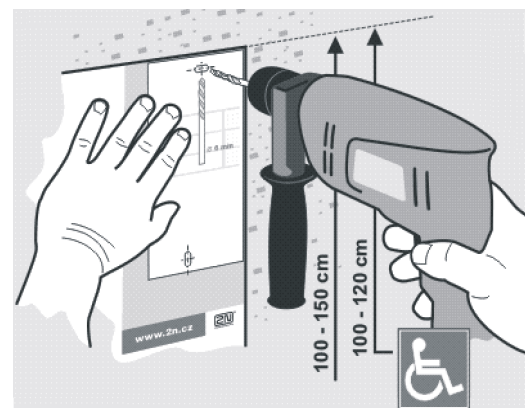
Environments where the product is exposed to rain or where water may flow down the walls (fence, outer wall of a building, e.g.).



## Caution

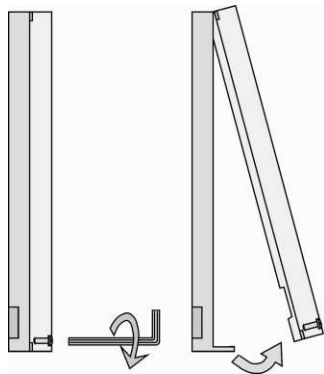
- The warranty shall not apply to product failures and defects caused by improper installation (contrary to these instructions). The manufacturer is neither liable for damages caused by theft within an area that is accessible after the attached electric lock is switched. The product is not designed as a burglar protection device except when used in combination with a standard lock, which has the security function.

## Surface Mounting

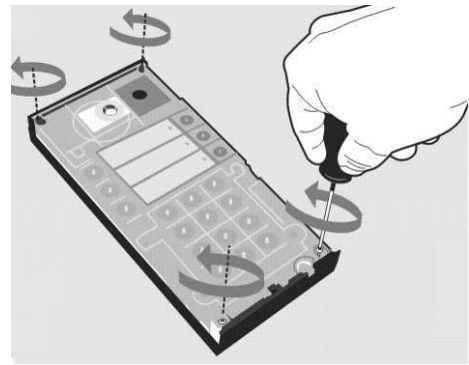


**Figure 2.1** Hole Drilling

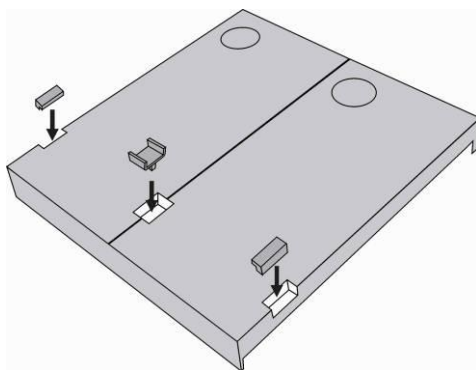
1. Drill holes according to the template included in the 2N<sup>®</sup> Helios IP supply. Insert the included dowels in the wall holes.
2. Use the hexagonal wrench included in the supply and remove the 2N<sup>®</sup> Helios IP metal cover. Remove the screw in the lower part of the metal cover and fold out the cover as shown in Figure 2.2.
3. Use a cross-head screwdriver to remove the plastic cover and demount the cover.



**Figure 2.2** Cover Removing



**Figure 2.3** Plastic Cover Removing



**Figure 2.4** Multiple-Module Assembly



## Warning

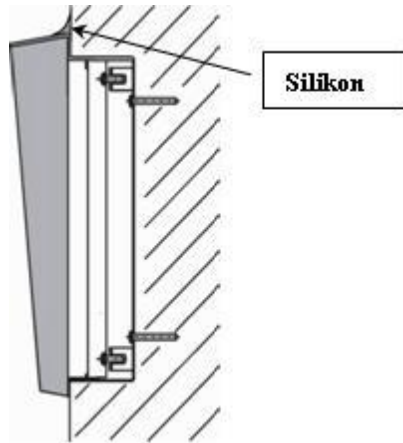
- Never remove the main board or camera electronics from under the lower cover while installing 2N® Helios IP. Do not disconnect the camera flat cable from the main board. Do not bend and press upon the flat cable either.
4. In multiple-module assemblies connect the boxes according to Figure 2.4, placing the basic module to the left and the extending modules to the right. The interconnecting cable shall be connected later!
  5. Install blank modules on the unused side holes as shown in Figure 2.4.
  6. If you are installing a roof module, put it on the wall now.
  7. Fix 2N® Helios IP on the wall with screws as shown in Figure 2.6. Carry the supply cables (Ethernet, lock, power cables) to the basic module box through one of the holes.



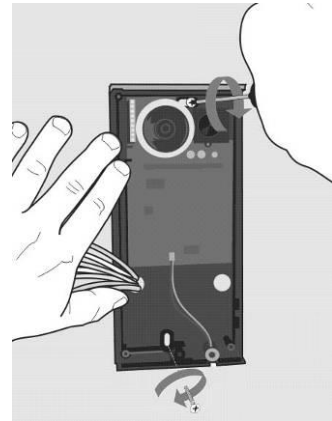
## Warning

- Make sure that the mounting surface for the 2N® Helios IP door communicator is perfectly flat. Avoid mechanical overload upon the bottom part of the cover. An incorrect installation on an uneven surface may lead to cover deformation and thus incorrect product functions.
8. While installing a roof module, paste its top and side edges to the wall using a silicon glue as shown in Figure 2.5.

9. Connect the cables as described in subsection 2.4, Mounting – Electrical Installation. Make sure that the cables are not squeezed while installing the plastic cover. For the correct cable installation refer to Figure 2.7.

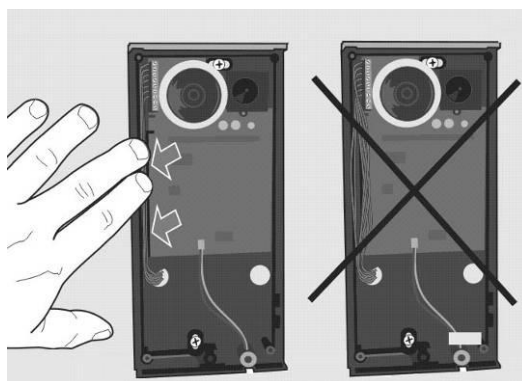


**Figure 2.5** Roof Mounting

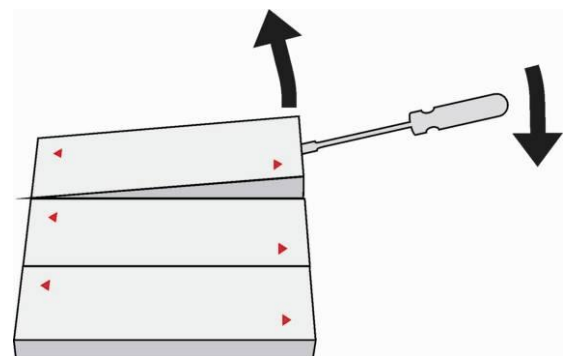


**Figure 2.6** Wall Mounting

10. Remove the protective foil from the display (for display-equipped 2N® Helios IP versions only).
11. Having mounted the unit on the wall and connected all cables, replace the plastic cover using cross-recessed screws.
12. Take out the name plates from the plastic cover as shown in Figure 2.8. Use a flat-bladed screwdriver, for example.
13. Remove the inserts from the name plates.
14. Insert the printed foil labels.
15. Put the inserts back in the name plates.
16. Replace the name plates, clicking them into position. The name plates hold the matt foil inserted underneath.
17. Check whether a silicon seal is inserted in the top groove of the plastic cover. A spare seal is included.
18. Close the metal cover and fix it with screws.



**Figure 2.7** Cabling



**Figure 2.8** Name Plate Removing



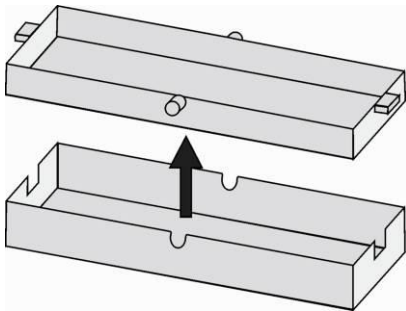


Figure 2.9 Insert Removing

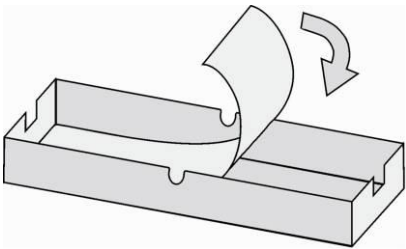


Figure 2.10 Label Inserting

Outdoor installation rules

- Always connect button backlighting – it is used for heating.
- The joint between the roof module and the wall must be filled with a waterproof cement to prevent water in-leak (see Figure 2.5).
- Water must not leak in along or around the cables.

Name tag material and printing

Each 2N® Helios IP package includes a sheet of transparent foil for laser printing. Cut the printed foil into pieces and insert the labels in the name plates. Do not use paper to avoid water in-leak and paper damage.

Red arrows are printed on the name plate. Make sure that the text and the arrow do not overlap. We recommend you to use a template (MS Word) available at [www.2n.cz](http://www.2n.cz) for printing.

Single button  
(whole)

Name 01
Name 02
Name 03

Double button  
(horizontally divided)

Name 01
Name 04
Name 02
Name 05
Name 03
Name 06

Flush Mounting

Follow the installation instructions included in the flush mounting box delivery.

Increased Resistance Version Installation

Follow the installation instructions included in the Anti-Vandal box delivery.

## 2.3 Mounting – Electrical Installation

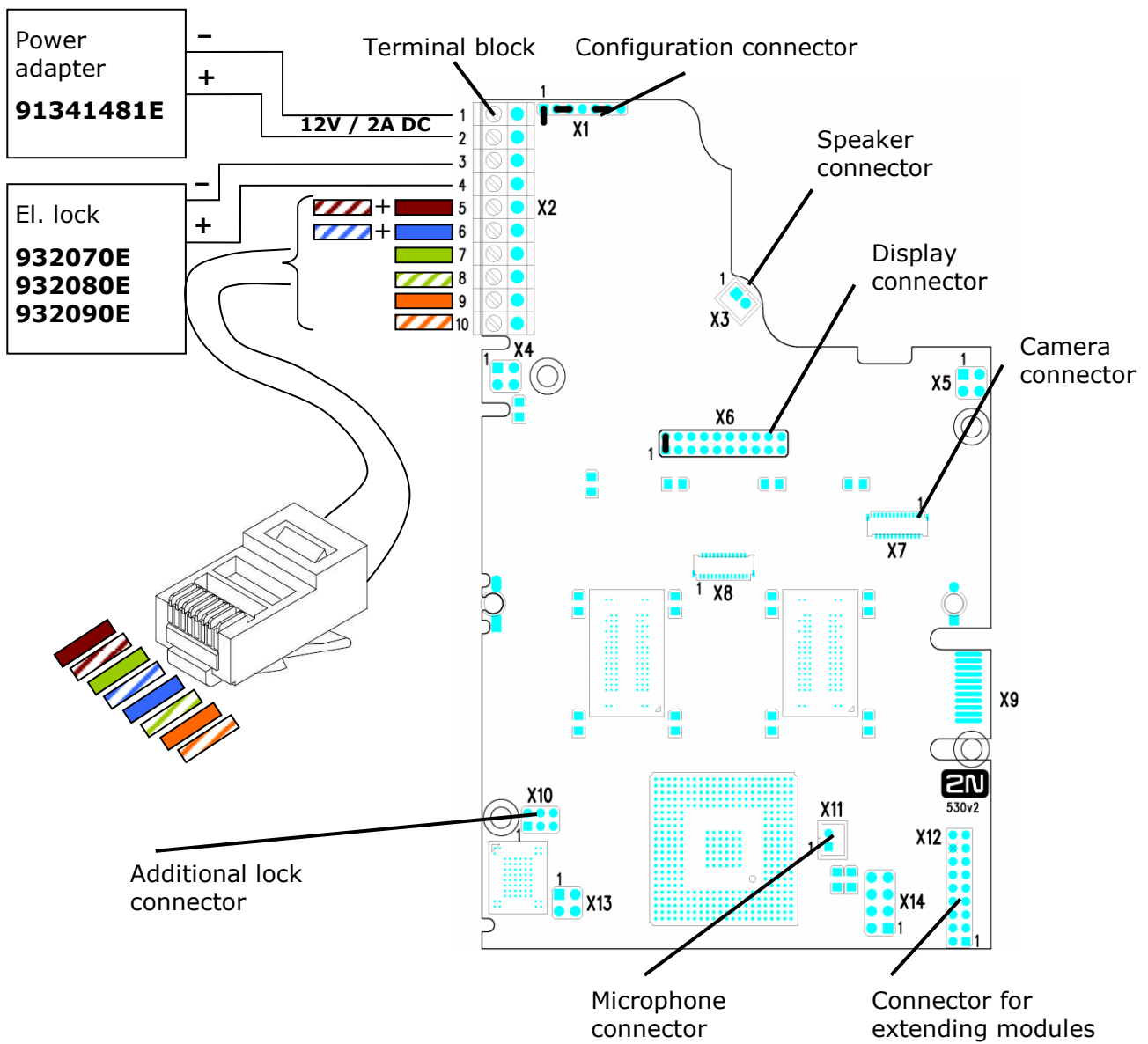
2N® Helios IP is designed for connection in the Ethernet computer network (10/100BASE-T) using a UTP cable. Use a CAT 5e UTP cable at least for connection.

2N® Helios IP is fed through the PoE (Power over Ethernet) technology. No additional cabling is therefore necessary. If your Ethernet is not equipped with the PoE technology, it is possible to use a PoE injector, order No. 91378100. As an alternative, you can use a power adapter, order No. 91341481E. 2N® Helios IP is configured over an integrated administration web server, which can be controlled from any web browser, e.g., Mozilla Firefox.

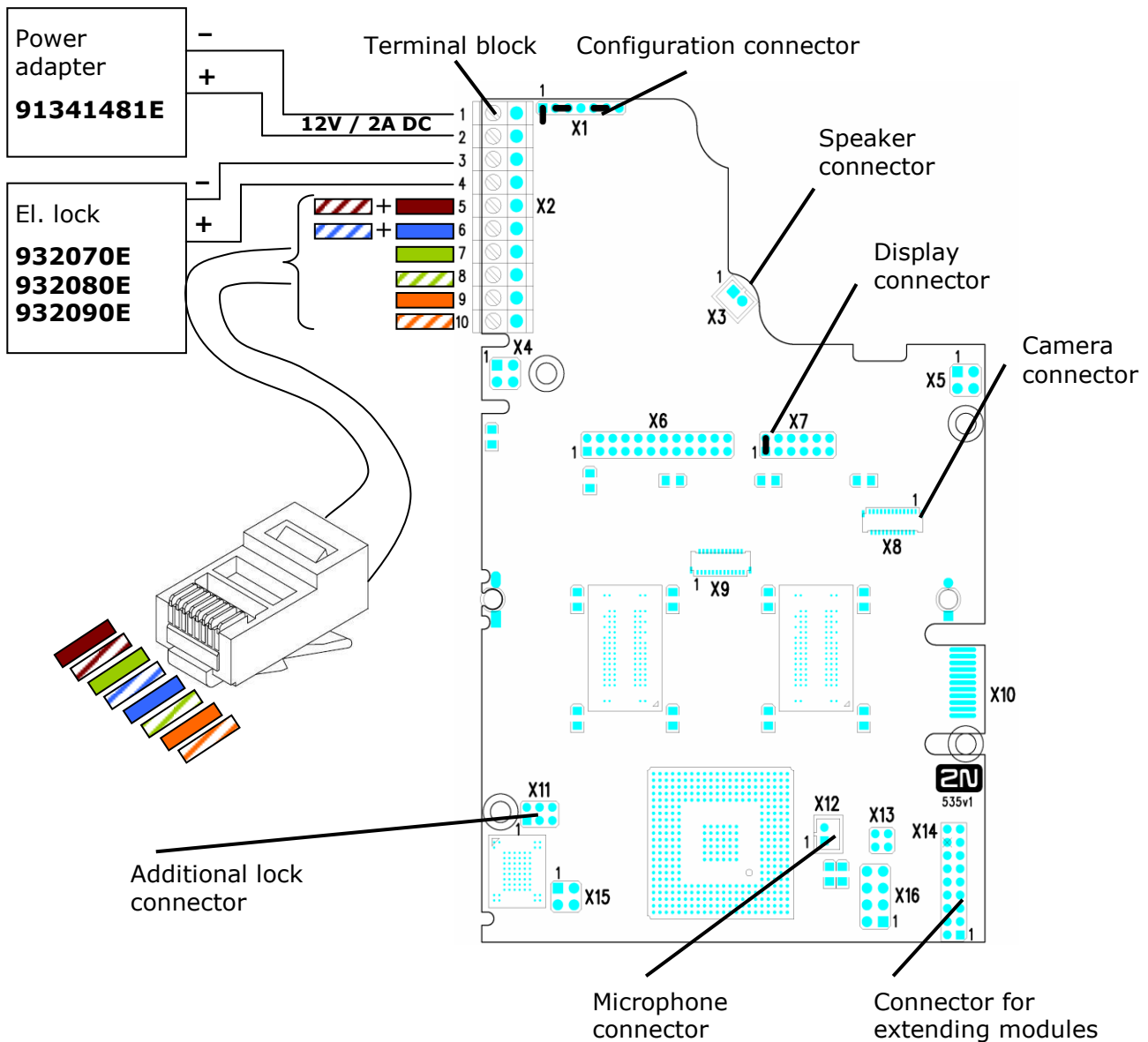
### Description of Printed Circuit Board Connectors

---

In **Figure 2.11** you can see the location of the printed circuit board (PCB) connectors. Connectors to which the accessories can be connected and connectors that serve for configuring 2N® Helios IP are indicated on the board. The UTP cable for the Ethernet connection is to be connected to the terminal block X2 as shown in **Table 2.1**. The terminal block can be removed from the PCB. The connection of each of the connectors is described in the sections below.



**Figure 2.11** Description of 2N® Helios IP connectors, PCB version 530v2



**Figure 2.12** Description of 2N® Helios IP connectors, PCB version

## Terminal Block X2 Connection

Terminal block X2 includes 10 terminals whose functions are distinguished by colour. Terminals 5–10 are used for connecting 2N® Helios IP to the Ethernet. Terminals 3–4 are designed for connecting the electric lock and terminals 1–2 help connect an external 12V / 2A DC power supply if no PoE power supply is available.

1. The terminal block is included in the package. To adjust an already installed 2N® Helios IP, disconnect it IP from the power supply. Then pull to remove the terminal block from the printed circuit board.
2. Insert the wires under the respective terminals.

3. Tighten the terminals using a flat screwdriver.
4. Replace the terminal block to the printed circuit board.



## Caution

- Make sure that the cables leading through the 2N® Helios IP cover bottom groove are installed properly. For the correct installation of the cables refer to Figure 2.7.

## Ethernet Connection

For the connections and meanings of the wires see the table below. Join UTP cable wires 4 (blue) and 5 (white-blue) and attach them under terminal 7 on 2N® Helios IP. In the same way, join wires 7 and 8 and place them under terminal 5 of 2N® Helios IP.

RJ-45		2N® Helios IP			
	Pin No.	Marking	Colour	Terminal No.	
	1	Tx+		10	
	2	Tx -		9	
	3	Rx+		8	
	4	PoE -		6	
	5	PoE -		6	
	6	Rx -		7	
	7	PoE +		5	
	8	PoE +		5	

**Table 2.1** Terminal Block Connections

## Electric Lock Connection

The electric lock can be connected to terminals 3 and 4 of terminal block X2.

Electric lock		2N® Helios IP		
		Marking	Colour	Terminal No
 <b>932070E</b> <b>932080E</b> <b>932090E</b>	-			3
	+			4

**Table 2.2** Terminal Block Connection for Electric Lock

Terminals 3 and 4 are connected to a relay on the 2N<sup>®</sup> Helios IP board. The relay terminals may act as switching or breaking contacts. Configuration is performed through the configuration connector X1 as described in the





Configuration Connector Connection subsection. Set on the configuration connector whether the electric lock will be powered from an external or internal power supply.

## External Power Supply Connection

If the Ethernet network is not equipped with the PoE technology, you have two alternative options how to supply power to 2N<sup>®</sup> Helios IP.

1. Using a PoE injector, order No. 91378100. 2N<sup>®</sup> Helios IP is then powered through an Ethernet cable as shown in Tab. 1 above.
2. Using a power adapter, order No. 91341481E.

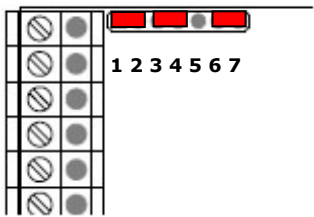
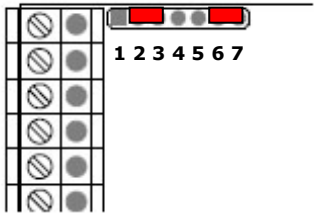
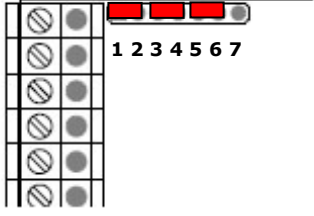
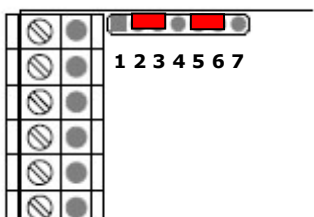
The external power supply from a power adapter can be connected to terminals 1 and 2.

Electric lock	2N <sup>®</sup> Helios IP			
	Marking	Marking	Terminal No.	
 91341481E	-		1	
	+		2	

**Table 2.3** Terminal Block Connection for Power Adapter

## Configuration Connector Connection

The configuration connector is located in the upper part of the printed circuit board. Use the configuration jumpers to set whether the lock control relay should have a switching or breaking function and whether it should be powered internally or externally.

Lock power supply		Relay		Configuration connector
Internal	External	Breaking	Switching	Connection of jumpers
✓		✓		
	✓	✓		
✓			✓	
	✓		✓	


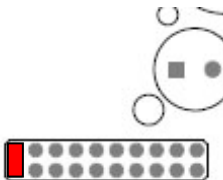
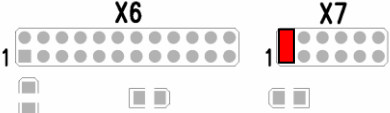
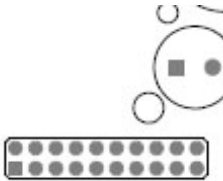
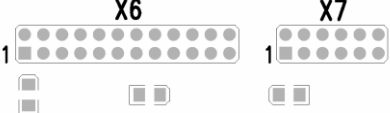

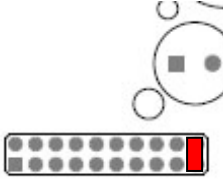
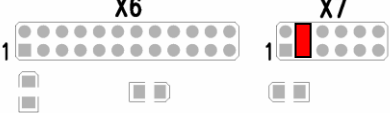
**Table 2.4** Connection of Configuration Connector Jumpers

## Display Connector

The display connector includes the name plate backlighting ON/OFF switching pins and 2N<sup>®</sup> Helios IP resetting pins. The remaining pins are intended for display connection.

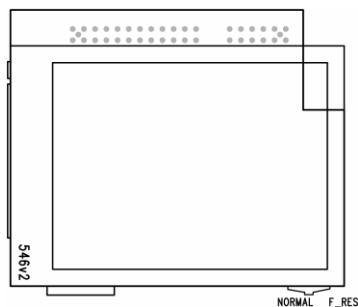
## 2N<sup>®</sup> Helios IP resetting procedure

1. Switch 2N<sup>®</sup> Helios IP off.
2. Connect the jumper into the resetting (default setting) position (put the display switch into the F\_RES position in the display-equipped models).
3. Switch 2N<sup>®</sup> Helios IP on and wait for the acoustic start signalling.
4. Switch 2N<sup>®</sup> Helios IP off.
5. Remove the jumper from the resetting (default setting) position (put the display switch into the NORMAL position in the display-equipped models).
6. Switch 2N<sup>®</sup> Helios IP on.

Name plate backlighting	Default settings	Display connector jumpers PCB version 530v2	Display connector jumpers PCB version 535v1
			
			
			

**Table 2.5** Configuration Jumpers on Display Connector

To reset the default values of a display-equipped 2N<sup>®</sup> Helios IP, put the switch in the display right-hand bottom corner in position F\_RES.

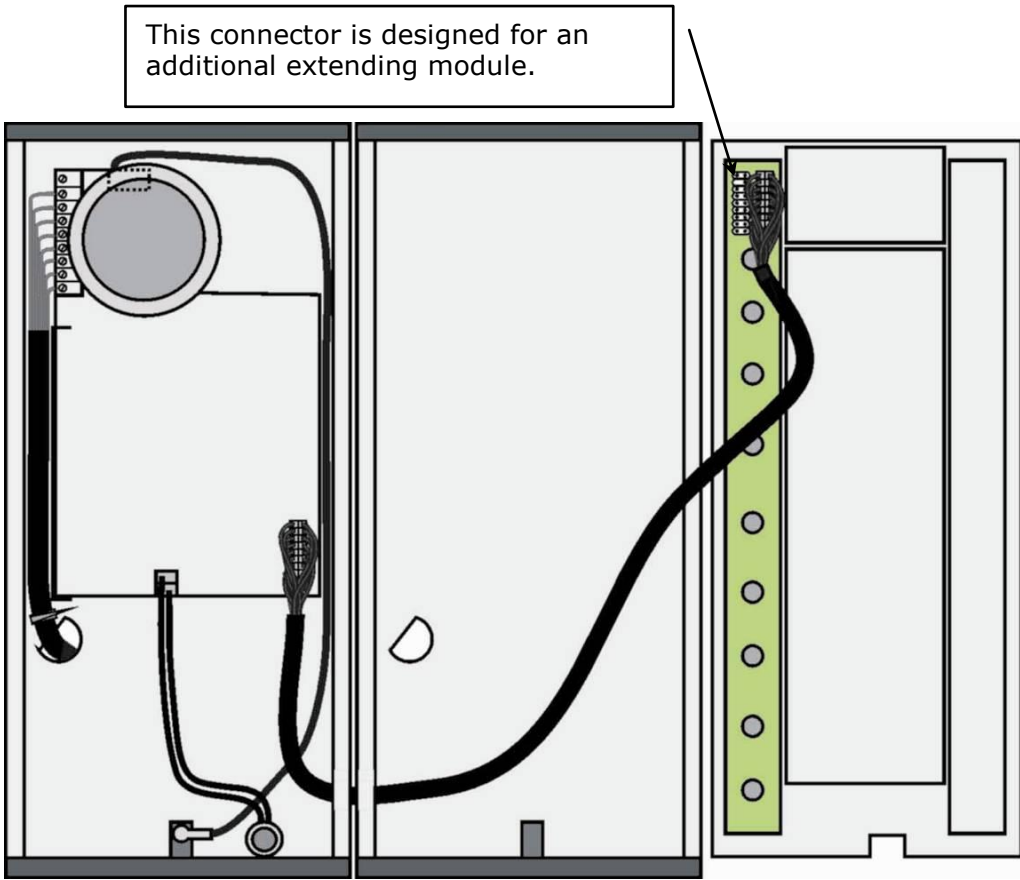


**Figure 2.13** Resetting Procedure – Display Model



# 2.4 Extending Module Connection

2N® Helios IP features an easy installation of extending button modules. Extending modules are connected using a single cable (included in every extender delivery) in a chain pattern (every additional unit is connected with the previous one). Each extending module has two connectors – an input connector (for connection towards the 2N® Helios IP basic unit) and an output connector (for connection of another, more remote unit). Be sure to maintain the correct orientation of the units and avoid connector mismatch to ensure a proper function of the device!



**Figure 2.14** Connection of One-Row-Button Extending Modules

## Maximum Count of Extenders

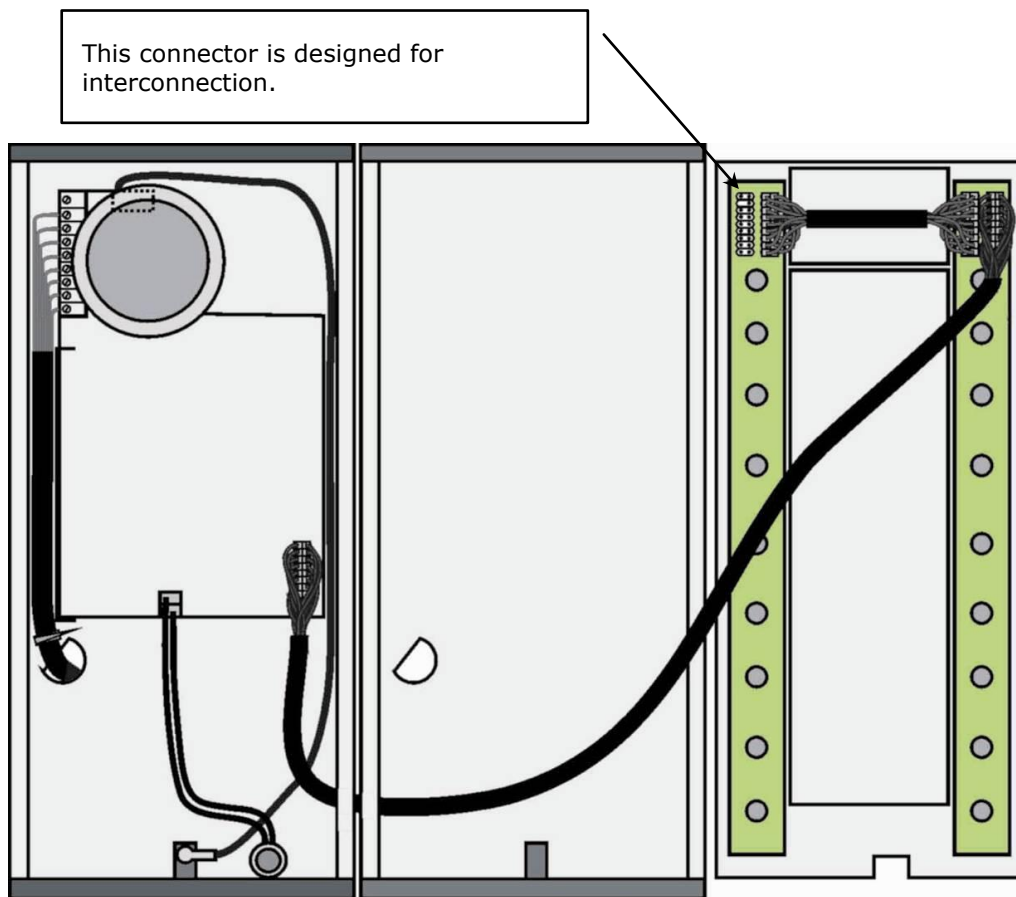
<b>9135181E</b> (1×8 buttons)	<b>6</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>
<b>9135182E</b> (2×8 buttons)	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>3</b>

**Table 2.6** Optional 2N® Helios IP Extension

The table above shows how to combine modules with single (whole) and double buttons.

## Module Cable Interconnection

- The cable is included in every extending module delivery. Both its ends are the same. Configuration is 1:1. Connectors cannot be shifted or inserted conversely because they are equipped with a so-called key.
- The basic unit is always on the left. Extenders are chain-connected, i.e. each is linked with its neighbour.
- The cable cannot be driven through the box interconnecting holes until the boxes have been connected (see subsection 2.3 Mounting – Mechanical Installation).



**Figure 2.15** Connection of Two-Button-Row Extending Module



### Caution

- The extending modules must be connected mutually and with the basic unit by means of a formed piece supplied with the extending module!!!



### Button numbering – double-button set

			7		15	23		31	39		47
1		4	8		16	24		32	40		48
2		5	9		17	25		33	41		49
3		6	10		18	26		34	42		50
Also applies to keypad sets			11		19	27		35	43		51
			12		20	28		36	44		52
			13		21	29		37	45		53
			14		22	30		38	46		54



#### Caution

- For the time being, AntiVandal panels are available only for single-button sets with one extending module at most.

### Button Numbering – Info Panel Sets

Installing the info panel name plate, order No. 9135311E, into any of the extending modules will not change the numbering system (the buttons on the info panel sides will remain functional). Connecting the info panel module, order No. 9135310E, will result in omission of eight numbers.

# 3

## 2N<sup>®</sup> Helios IP Configuration

This section describes the 2N<sup>®</sup> Helios IP configuration.

Here is what you can find in the section:

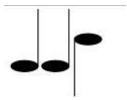
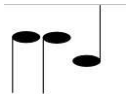
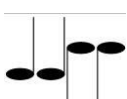
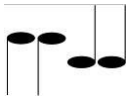
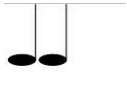
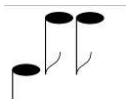
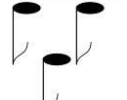
- Acoustic Signalling and Keypad Configuration
- Quick Configuration for Calling
- Configuration

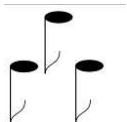
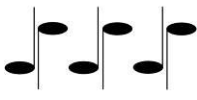
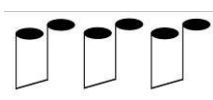


## 3.1 Acoustic Signalling and Keypad Configuration

2N® Helios IP generates sounds to signal operational mode switching and changes.

There are different types of acoustic signals for each type of status change. The list of signals is included in Table 3.1.


### Tone Signalling

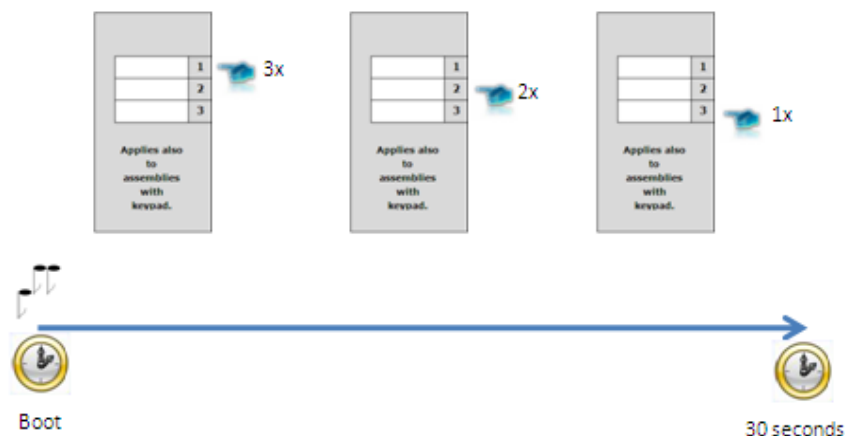
Tones	Meaning
	<b>User activated</b> after entering the user activation code. The activation code is used for activating a user (a telephone directory position). For activation code setting refer to the Telephone Directory subsection
	<b>User deactivated</b> after entering the user deactivation code. The deactivation code is used for deactivating a user (a telephone directory position). A deactivated user may not be called but the call may, if necessary, be forwarded to a substitute if defined. For deactivation code setting refer to the Telephone Directory subsection.
	<b>Scheduler activated</b> used for scheduler activation. It can be used, for example, to enable alerting of a user group of users in an office. For activation code setting refer to the Scheduler subsection.
	<b>Scheduler deactivated</b> used for scheduler deactivation. It can be used, for example, to disable alerting a user group in an office and forward the call to a selected telephone number, or the reception or a cellular phone. For deactivation code setting refer to the Scheduler subsection.
	<b>Call prolongation confirmation signalling</b> a maximum call duration is set for blocking protection reasons, see the Miscellaneous subsection.
	<b>Internal application launched</b> after turning on or restarting of 2N® Helios IP, the internal application of 2N® Helios IP is launched. A successful launch is signalled by this tone combination.
	<b>Connected to LAN, IP address received</b> after the launch of the internal application 2N® Helios IP logs into the LAN. A successful login is signalled by this tone combination.

	<b>Disconnected from LAN, IP address lost</b> whenever the UTP cable is disconnected from 2N® Helios IP, this status is signalled by this tone combination.
	<b>Invalid telephone number or invalid unlocking code</b> you can dial an extension telephone number or enter the door-opening code using the keypad. An invalid code is signalled by this tone sequence.
	<b>Switching to default network parameters</b> after power up, a 30-second timeout is set for entering the resetting code. For switching to default network parameters refer to the Switching to Default Network Parameters – Static IP Address and Switching to Default Network Parameters – Dynamic IP Address sections.
	<b>Call end signalling</b> a time limit can be set after which your call will be terminated. To prolong a call, push a VoIP telephone key. The time limit is set due to protection against call blocking.
	<b>Connected call for VoIP phone-to-2N® Helios IP calling</b> a short tone is played to signal call connection.

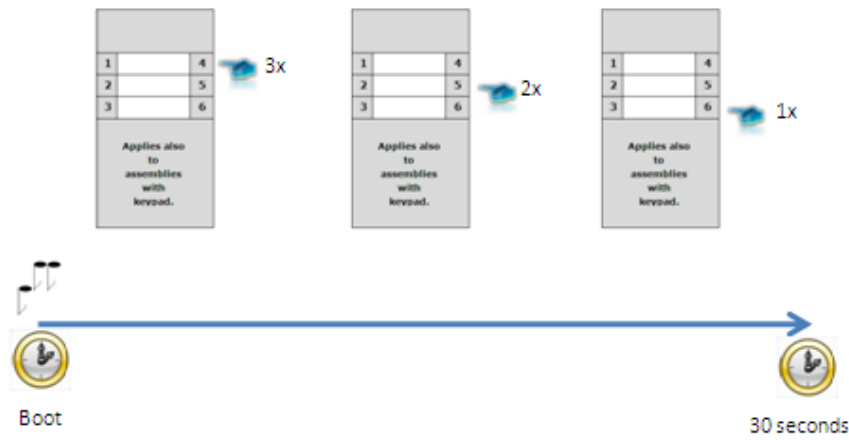
**Table 3.1** List of Tone Signals

## Switching to Default Network Parameters – Static IP Address

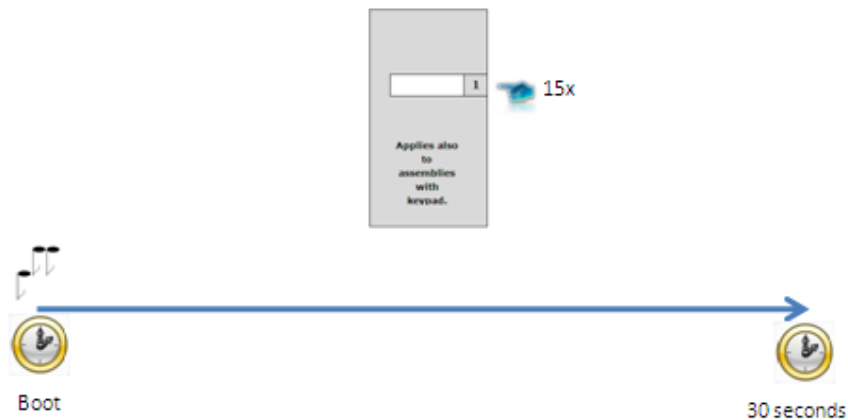
Switching to the default network parameters with the static IP address can be performed in two ways. Either through a web interface as described in the Network section or by pushing a combination of the quick dialling buttons as shown in Figures 3.1–3.3. Upon resetting, the web server is automatically switched on if switched-off before. The buttons have to be entered within 30 seconds after the internal application launch as signalled by the  tone sequence. The maximum delay between the buttons is 2 s.



**Figure 3.1** Switching to Default Network Parameters – Static IP Address (Order Nos. 9137130E, 9137130CE, 9137130CKE, 9137131E, 9137131CE, 9137131CKE)




**Figure 3.2** Switching to Default Network Parameters – Static IP Address (Order Nos. 9137160E, 9137160CE, 9137160CKE, 9137161E, 9137161CE, 9137161CKE)




**Figure 3.3** Switching to Default Network Parameters – Static IP Address (Order Nos. 9137110E, 9137110CE, 9137110CKE, 9137111E, 9137111CE, 9137111CKE)

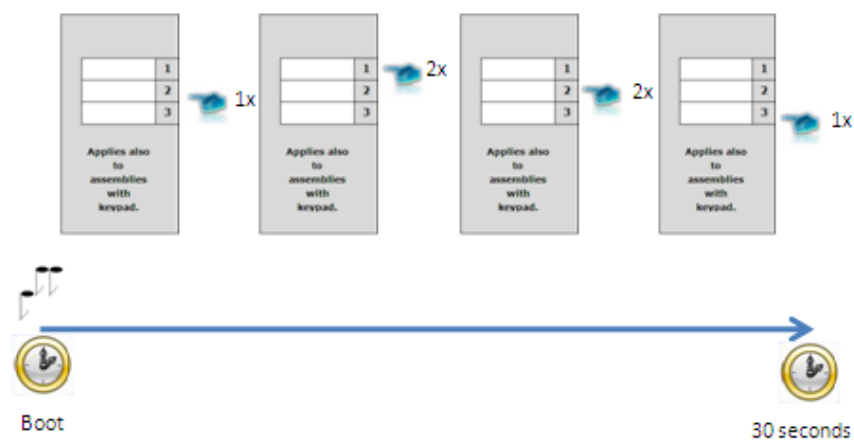
For one-button 2N<sup>®</sup> Helios IP modules (order Nos. 9137110E, 9137110CE, 9137110CKE, 9137111E, 9137111CE, 9137111CKE), pushing key 1 fifteen times

within 30 seconds after the internal application launch  results in turning on of the web server and switching the network parameters from the DHCP to the default static IP address and vice versa.

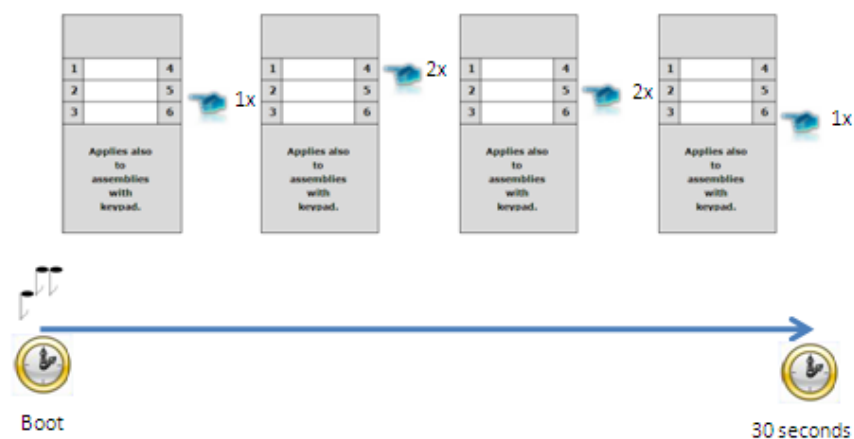


## Switching to Default Network Parameters – Dynamic IP Address

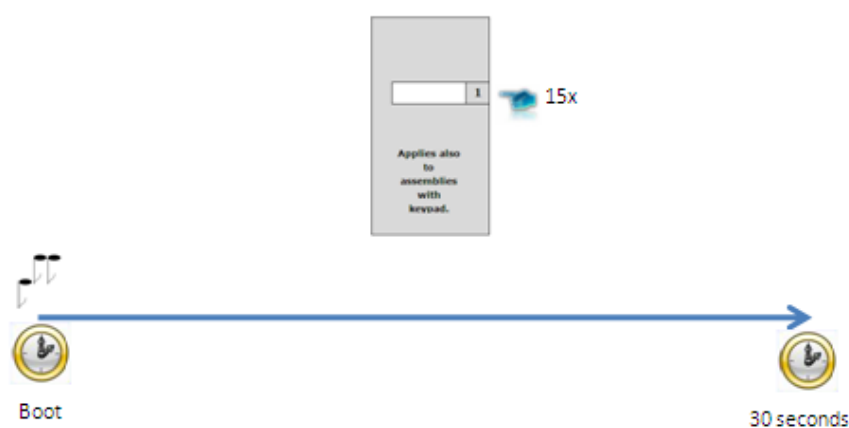
Switching to the default network parameters with the dynamic IP address can be performed in two ways. Either through a web interface as described in the Network section or by pushing a combination of the quick dialling buttons as shown in Figures 3.4–3.6. Upon resetting, the web server is automatically switched on if switched-off before. The buttons have to be entered within 30 seconds after the internal application launch as signalled by the  tone sequence. The maximum delay between the buttons is 2 s.



**Figure 3.4** Switching to Default Network Parameters – DHCP (Order Nos. 9137130E, 9137130CE, 9137130CKE, 9137131E, 9137131CE, 9137131CKE)



**Figure 3.5** Switching to Default Network Parameters – DHCP (Order Nos. 9137160E, 9137160CE, 9137160CKE, 9137161E, 9137161CE, 9137161CKE)

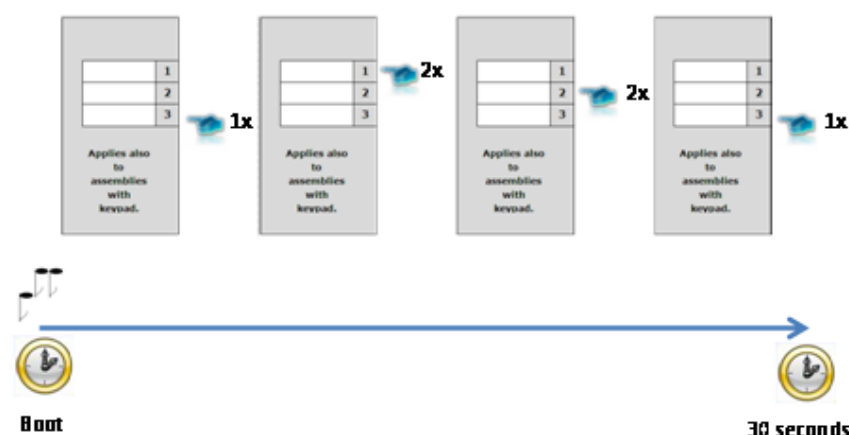


**Figure 3.6** Switching to Default Network Parameters – DHCP (Order Nos. 9137110E, 9137110CE, 9137110CKE, 9137111E, 9137111CE, 9137111CKE)

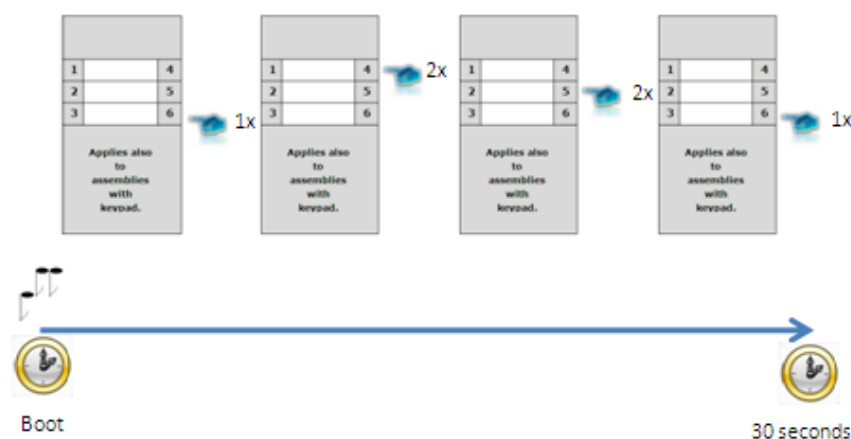
For one-button 2N<sup>®</sup> Helios IP modules (order Nos. 9137110E, 9137110CE, 9137110CKE, 9137111E, 9137111CE, 9137111CKE), pushing key 1 fifteen times within 30 seconds after the internal application launch as signalled by the tone sequence results in turning on of the web server and switching the network parameters from the default static IP address to the dynamic address and vice versa.

## Web Server Switch On

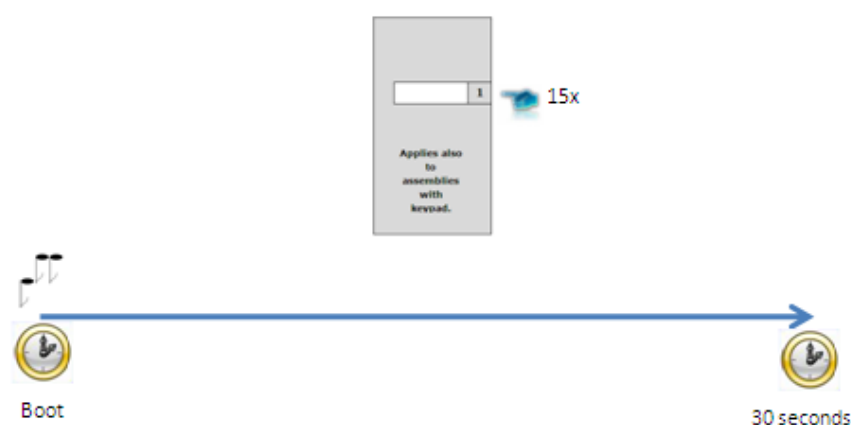
If the web server is switched off, switch it on using the quick dialling buttons of the 2N<sup>®</sup> Helios IP basic module as described in Figures 3.7–3.9. The buttons have to be entered within 30 seconds after the internal application launch as signalled by the tone sequence. The maximum delay between the buttons is 2 s.




**Figure 3.7** Switching on Web Server Using Quick Dialling Buttons (Order Nos. 9137130E, 9137130CE, 9137130CKE, 9137131E, 9137131CE, 9137131CKE)



**Figure 3.8** Switching on Web Server Using Quick Dialling Buttons (Order Nos. 9137160E, 9137160CE, 9137160CKE, 9137161E, 9137161CE, 9137161CKE)



**Figure 3.9** Switching Web Server Using Quick Dialling Buttons (Order Nos. 9137110E, 9137110CE, 9137110CKE, 9137111E, 9137111CE, 9137111CKE)

For one-button 2N<sup>®</sup> Helios IP modules (order Nos. 9137110E, 9137110CE, 9137110CKE, 9137111E, 9137111CE, 9137111CKE), pushing key 1 fifteen times within 30 seconds after the internal application launch as signalled by the  tone sequence results in turning on of the web server and switching the network parameters from the default static IP address to the dynamic address and vice versa.

## 3.2 Quick Configuration for Calling

This section describes the most common and convenient way of configuration. For details on the configuration parameters refer to the sections below.

### Language Selection

---

Before starting to configure, select the administration web server language using the folder menu in the right-hand upper corner of the screen.

### Network Settings

---

If you have not set the IP address obtaining from the DHCP server, change the default IP address of your 2N® Helios IP. To set the IP address, use the *Other settings* -> *Network menu* as shown in the Network section.

### Static Parameter Setting

---

For Windows OS users: to know your network parameters, enter in the command line: `ipconfig -all`.

#### Static IP address

Set the IP address assigned by your LAN administrator.

#### Network mask

Set the network mask.

#### Default gateway

Set the default network gateway.

#### Primary DNS

Set the primary Domain Name Server IP address for your LAN.

#### Secondary DNS

Set the secondary Domain Name Server IP address for your LAN.

## SIP Parameter Setting

---

Set your VoIP network parameters to make calls from your 2N<sup>®</sup> Helios IP. To do this, use the *Other settings* -> *SIP setting* menu.

### Display name

Set the name to be displayed to the called subscriber. The name will also be displayed in the right-hand upper corner of the web interface and used for 2N<sup>®</sup> Helios IP identification in the 2N<sup>®</sup> Helios IP Network Scanner application.

### User ID

Set the user name to be used for registration.

### Domain

Set the domain name or IP address of the server to be used for calling.

### Use authorisation ID

Define whether the authorisation ID or user ID shall be used for authorisation.

### Authorisation ID

Set the authorisation ID to be used for authorisation if the Use authorisation ID is set to Yes.

### Password

Define the authorisation password for registration and calling.

### Local SP port

Set the port to be used by 2N<sup>®</sup> Helios IP for SIP signalling.

### Proxy address

Set the SIP proxy address to be used by 2N<sup>®</sup> Helios IP for calling.

### Proxy port

Set the SIP proxy communication port for SIP signalling.

### 2N<sup>®</sup> Helios IP registration

Define whether 2N<sup>®</sup> Helios IP should register at the SIP proxy.

### Registration restricted to:

Set the time for 2N<sup>®</sup> Helios IP registration.

### Registrar address:

Set the registrar address.

### Registrar port:

Set the registrar communication port.

## Telephone Directory Setting

The telephone directory menu is used for configuring the quick dialling buttons (*Basic settings* → *Telephone directory*). The telephone directory contains 999 positions (only 54 positions are supported in the 9137131(CK), 9137161(CK) and 9137111(CK) models, 999 positions are supported after the licence key is inserted, order No. 9137901). The first 54 positions correspond to the quick dialling buttons of 2N® Helios IP and the buttons of the extending modules attached (Extending Module Connection). To retrieve the remaining positions, use the numeric keypad if available. To select a telephone directory position, use the upper navigation bar with button numbers. For numbering of 2N® Helios IP buttons, including extending module buttons, refer to the Button Numbering section. To move between the positions, either use the arrow keys or enter the position number and push the *Move to* button (see Figure 3.10).



**Figure 3.10** Telephone Directory Navigation Bar

### Position enable

The **Position enable** switch defines whether the particular position is enabled or disabled. You have to enable a position to dial its telephone number. To select a position status, either push a quick dialling button (for positions 1–54) or enter the position number using the 2N® Helios IP numeric keypad.

### Position name

Here enter a personal name for the selected telephone directory position. This parameter is optional and facilitates the telephone directory search.

### Telephone numbers

Enter up to three telephone numbers for a selected telephone directory position. These numbers are called sequentially, one after another.

### Number 1, 2 and 3:

Enter the station telephone number to which the call should be forwarded. If the station number included in Number 1 fails to answer, the call will be forwarded automatically to Number 2, and so on. For the call forwarding timeout refer to the Miscellaneous subsection.

It is unnecessary to define the remaining parameters for a quick configuration. For details on the parameters necessary for a detailed configuration, refer to the sections below.

## Lock Setting


---

To set the lock 1 codes use the *Basic settings* -> *Lock 1* menu.

### Lock setting

Set whether and for how long the lock should be active after the correct unlocking code has been entered.

### Lock codes

Enter the lock 1 opening codes for 2N<sup>®</sup> Helios IP. If a code matches another code entered earlier in 2N<sup>®</sup> Helios IP, the  Symbol will appear next to the code.


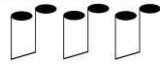
Having completed the configuration, restart 2N<sup>®</sup> Helios IP, refer to the section. From now on, 2N<sup>®</sup> Helios IP is ready to make calls.

## 3.3 Configuration

2N<sup>®</sup> Helios IP is configured through an integrated administration web server. Connect 2N<sup>®</sup> Helios IP to the IP network and make sure that 2N<sup>®</sup> Helios IP is powered.


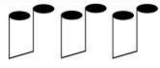
### IP Address Obtaining from DHCP

By default, obtaining the IP address from the DHCP server is selected in 2N<sup>®</sup> Helios IP. After power up, 2N<sup>®</sup> Helios IP automatically receives the IP address from the DHCP server. If you do not have access to the DHCP server, you can find the IP address received with the HeliosIPNetScanner program, which is available on the installation CD. If 2N<sup>®</sup> Helios IP is switched to the static IP address mode, switch it to the DHCP IP address obtaining mode as follows:

1. Power on 2N<sup>®</sup> Helios IP.
2. Wait until 2N<sup>®</sup> Helios IP completes the booting process. The end is signalled by a sequence of tones .
3. Within 30 seconds push the buttons as described in the Switching to Default Network Parameters – Dynamic IP Address section.
4. Switching to the DHCP IP address obtaining mode is signalled by a sequence of tones .
5. Wait until the device is restarted.

### Manual IP Address Setting

If the DHCP server is unavailable, you can set a default static IP address in your 2N<sup>®</sup> Helios IP. Proceed as follows:

1. Power on 2N<sup>®</sup> Helios IP.
2. Wait until 2N<sup>®</sup> Helios IP completes the booting process. The end is signalled by a sequence of tones .
3. Within 30 seconds push the buttons as described in the Switching to Default Network Parameters – Static IP Address section.
4. Switching to the default static IP address mode is signalled by a sequence of tones .
5. Wait until the device is restarted.
6. Now, 2N<sup>®</sup> Helios IP has the following network parameters:
 

IP address:	192.168.1.100
Network mask:	255.255.255.0
Default gateway:	192.168.1.1



## Description of 2N<sup>®</sup> Helios IP Network Scanner

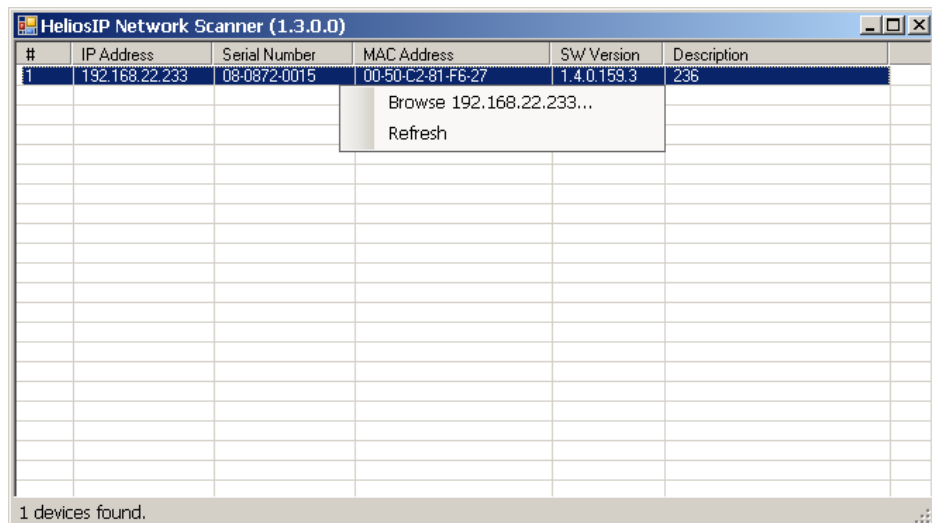
The purpose of this application is to find the dynamic IP address of 2N<sup>®</sup> Helios IP in the local IP network. The application is available on the installation CD, which is part of the 2N<sup>®</sup> Helios IP package. Microsoft NET Framework 2.0 is required for installation.

1. Run the 2N<sup>®</sup> Helios IP Toolkit installer.
2. The installation wizard will guide you through the installation



**Figure 3.11** 2N<sup>®</sup> Helios IP Network Scanner Installation Wizard

3. After installing the 2N<sup>®</sup> Helios IP Network Scanner application, run the application using the *Start* menu of the Microsoft Windows operating system.
4. Upon launch, the application starts searching the LAN automatically for all 2N<sup>®</sup> Helios IP communicators with an assigned or statically set IP address. The communicators are then listed in a table.



**Figure 3.12** 2N<sup>®</sup> Helios IP Network Scanner Window

5. Select the 2N<sup>®</sup> Helios IP communicator to be configured. Click on it with the right-hand mouse button and select *Browse...* to open the web browser window, login to 2N<sup>®</sup> Helios IP and start configuring as described in the Login section below.

## Login

---

In the web browser enter the IP address of 2N<sup>®</sup> Helios IP. Subsequently, a login screen will be displayed. The default login username and password are:

Username: Admin

Password: 2n

If the login screen does not appear, an incorrect IP address was entered into the web browser or the 2N<sup>®</sup> Helios IP administration web server was turned off. If you are not sure of the IP address of 2N<sup>®</sup> Helios IP, use the 2N<sup>®</sup> Helios IP Network Scanner application as described in the Description of 2N<sup>®</sup> Helios IP Network Scanner section.

Find how to switch on the administration web server in the Web Server Switch-On section. Please check the IP address entered, or, if applicable, check the way the IP address was obtained as described at the beginning of subsection 3.1., Acoustic Signalling and Keypad Configuration.

## Language Selection

---

You can select the language using the tag menu in the right-hand upper corner as shown in Figure 3.13.



**Figure 3.13** Language Selection

## Information

In this section find the basic information on the respective 2N<sup>®</sup> Helios IP system.

<b>Product name:</b> Helios IP <b>Software version:</b> 1.4.0.159.3 <b>Bootloader version:</b> 1.0.0.1.0 <b>Hardware version:</b> 530v2 <b>Serial number:</b> 08-0872-0015 <b>MAC address:</b> 00-50-C2-81-F6-27 <b>Up time:</b> 0d 0h 29m	<b>DHCP status:</b> Off <b>IP address:</b> 192.168.22.233 <b>Net mask:</b> 255.255.255.0 <b>Default gateway:</b> 192.168.22.1 <b>Primary DNS:</b> 192.168.1.5 <b>Secondary DNS:</b> 192.168.2.8
<b>Registration state:</b> Registered <b>Registration at:</b> 192.168.22.47 <b>Registration time:</b> 2009-06-19 07:48:27	<b>Ethernet frames transmitted:</b> 4488 <b>Ethernet frames received:</b> 5695 <b>Ethernet frames dropped:</b> 0 <b>UDP packets transmitted:</b> 83 <b>UDP packets received:</b> 936 <b>UDP packets dropped:</b> 0 <b>TCP packets transmitted:</b> 4730 <b>TCP packets received:</b> 5539 <b>TCP packets dropped:</b> 7
<b>Call state:</b> Inactive <b>Opponent:</b> N/A <b>Call duration:</b> 0 s <b>Audio codec:</b> N/A <b>Video codec:</b> N/A	

**Figure 3.14** Basic Information

**Software version** – the current 2N<sup>®</sup> Helios IP firmware version. For firmware update refer to the Auto Update subsection.

**Bootloader version** – the bootloader version.

**Hardware version** – the 2N<sup>®</sup> Helios IP hardware version.

**Serial number** – the product serial number.

**MAC address** – the Ethernet interface address.

**Uptime** – the period of time since the last restart.

**Registration status** – the current 2N<sup>®</sup> Helios IP-to-SIP proxy registration status:

- **In progress** – registration in progress.
- **Registered** – 2N<sup>®</sup> Helios IP is registered to the SIP proxy.
- **Not registered** – 2N<sup>®</sup> Helios IP is not registered to the SIP proxy.

**Registration at** – the IP address or domain name of SIP proxy to which 2N® Helios IP is registered.

**Registration time** – registration date and time.

**Call state** – the current call status:

- **Inactive** – system inactive;
- **Call set-up** – call being set up;
- **Ringing** – ringing at VoIP phone;
- **Incoming** – VoIP phone-to-2N® Helios IP call being set-up;
- **Outgoing** – 2N® Helios IP-to-VoIP phone call being set-up.

**Opponent** – displays the SIP address called from 2N® Helios IP.

**Call duration** – the current call duration.

**Audio codec** – the audio codec used for the current call.

**Video codec** – the video codec used for the current call.

**DHCP status** – displays whether the obtaining of the IP address from the DHCP server is on.

**IP address** – the current IP address of 2N® Helios IP.

**Net mask** – the current subnet mask.

**Default gateway** – the current default network gateway.

**Primary DNS** – the current primary Domain Name Server.

**Secondary DNS** – the current secondary Domain Name Server.

**Ethernet frames transmitted** – the count of Ethernet frames transmitted.

**Ethernet frames received** – the count of Ethernet frames received.

**Ethernet frames dropped** – the count of Ethernet frames dropped due to damage.

**UDP packet transmitted** – the count of UDP packets transmitted.

**UDP packet received** – the count of UDP packets received.

**UDP packet dropped** – the count of UDP packets dropped due to damage.

**TCP packet transmitted** – the count of TCP packets transmitted.

**TCP packet received** – the count of TCP packets received.

**TCP packet dropped** – the count of TCP packets dropped due to damage.

## Telephone Directory

To set the telephone directory, use the *Basic settings* -> *Telephone directory* tag. The telephone directory includes 999 records – positions. Typically, one position corresponds to one user. You can assign up to three phone numbers to each position/user.

**Phone book**

← 1 2 3 4 5 6 7 8 9 10 → Go to

**General settings**

Position enabled:

Position name:

**Phone numbers**

Number 1:   
Time profile:

Number 2:   
Time profile:

Number 3:   
Time profile:

Substitute if inaccessible:

**User activation & deactivation**

Activation code:

Deactivation code:

User current state: Active [Change](#)

**User door-lock codes**

Lock 1 code:

Lock 2 code:

**Figure 3.15** Telephone Directory

To move between the positions either use the arrow buttons, or enter the position number and push the *Move to* button in the right-hand upper corner.

The first 54 positions are the same as the quick dialling buttons on 2N® Helios IP and buttons on the extending modules (refer to the Button Numbering subsection). For the other positions use the numeric keypad if available in your 2N® Helios IP.

---

## General Settings

---

### Position enabled

Here select whether the selected telephone directory position shall be enabled or disabled. Remember to enable a position to call to its number.

### Position name

Enter the name of the person to be assigned to a selected telephone directory position. This parameter is optional and helps you search the telephone directory more easily.

---

## Telephone Numbers

---

Here define up to three telephone numbers to be called one after another when a quick dialling button or keypad is used.

### Numbers 1,2 and 3

Enter the telephone number to which the call is to be routed. If the call is not answered by the station with the telephone number specified under Number 1, it will be forwarded automatically to the telephone number specified under Number 2 and so on.

2N® Helios IP also allows for direct calling in the format sip:user\_id@domain:port, e.g.: sip:200@192.168.22.15:5062 or sip:name@yourcompany.

### Time schedule

Assign a time schedule to a telephone number for validity management. Refer to the Scheduler subsection for details on time schedule settings.

### Substitute if inaccessible

Enter the person to whom the call will be routed if the original person is not reached (for order Nos. 9137131(CK)E, 9137161(CK)E, 9137111(CK)E with a proper licence key only, order No. 9137901).

---

## User Activation and Deactivation

---

Here set the user activation and deactivation codes. The user may activate or deactivate 2N® Helios IP using the user telephone or numeric keypad. If just one code is set, or both the codes are the same, the current user status will be switched after code entering. You can verify the selected status by a sound signalling. Together with the scheduler settings, the user activation and deactivation define whether a call will be established for the given telephone number (for order Nos. 9137131(CK)E, 9137161(CK)E and 9137111(CK)E with a licence key only, order No. 9137901).

---

## User Door Lock Codes

---

Write the user codes for 2N® Helios IP unlocking. Each user may be assigned two unique codes for lock 1 and 2 opening. If the codes are identical with other codes already entered in 2N® Helios IP, the following mark will appear with the respective codes: ✖ (for order Nos. 9137131(CK)E, 9137161(CK)E and 9137111(CK)E a licence key is required, order No. 9137901).

## Scheduler

The scheduler helps you set conditioned calling to user numbers. In case a user is not present, 2N® Helios IP need not set up a call to his or her telephone number but can automatically call other telephone numbers in the directory or the substitute number. Each user number can be assigned a scheduler – profile. A total of 20 profiles can be shared by the users (for order Nos. 9137131(CK)E, 9137161(CK)E, 9137111(CK) this number is 3, or 20 with a licence key only, order No. 9137901). There are two possible ways of profile validity condition setting: time setting in the Time schedule, or manual setting of the profile activation and deactivation codes. For you to use both the functions at the same time, the two conditions must be met at the same time.

**5. Scheduler**

← 1 2 3 4 5 6 7 8 9 10 → Go to [ ]

**General settings**

Profile name: Working hours

**Profile activation & deactivation**

Activation code: 147

Deactivation code: 741

Profile current state: Active [Change](#)

**Profile schedule**

	Active	From - To
Sunday:	No	00:00 - 23:59
Monday:	Yes	08:00 - 16:30
Tuesday:	Yes	08:00 - 16:30
Wednesday:	Yes	08:00 - 16:30
Thursday:	Yes	08:00 - 16:30
Friday:	Yes	08:00 - 16:30
Saturday:	No	00:00 - 23:59

**User active if...**

- ☒ Profile active only (independent)
- ☐ Profile & user active
- ☐ Profile & user not active
- ☐ Profile or user active
- ☐ Profile or user not active

Figure 3.16 Scheduler Set-up

## General Settings

### Profile name

Enter the scheduler profile name. This parameter is optional and helps you search the list of profiles more easily.

---

## Profile Time Schedule

---

Set the presence of a user in a week period. A profile is active if the current time matches the set parameters. To use this function properly, make sure that the current time data have been set properly on the device (see the Date and Time subsection).

---

## Profile Activation and Deactivation

---

Set the manual user activation and deactivation codes. To activate or deactivate a profile, use the DTMF code from the user telephone or the 2N® Helios IP numeric keypad. If just one code is set, or both the codes are the same, the current user status will be switched over after code entering. You can verify the selected status by a sound signalling. If no code is set, the function is inactive and the profile status depends on the time schedule.

---

## User Active if...

---

Set at what user and profile status the telephone directory numbers will be called. The settings are applicable only if the time schedule is set for the given telephone number in the directory. See the Telephone Directory subsection (for order Nos. 9137131(CK)E, 9137161(CK)E and 9137111(CK)E this function is supported with a licence key only, order No. 9137901.)

### Profile active only (user independent)

A telephone directory number is called only if the profile is active.  
Example of use: you want to call the reception desk during working hours.

### Profile & user active

A telephone directory number is called only if the profile and the user are active.  
Example of use: you want to call the secretary's office during working hours and the secretary's presence.

### Profile active & user inactive

A telephone directory number is called only if the profile is active and the user is inactive.  
Example of use: you want to call the reception desk during working hours when the secretary is absent.

### Profile or user active

A telephone directory number is called if the profile or the user is active.  
Example of use: you want to call the stock release department during working hours or when the personnel are present.


### Profile active or user inactive

A telephone directory number is called if the profile is active or the user is inactive.  
Example of use: you want to call the technician's cellular phone during the lunch time or the technician's absence.



## Locks

This menu helps you set the opening codes and modes for locks 1 and 2 attached to 2N® Helios IP. Lock 2 settings are applicable only if 2N® Helios IP is equipped with an additional switch (order No. 9137310E).



# Lock 2

### Lock settings

Lock enabled: Yes ▼



Switch-on duration:  s

Lock synchronisation: No ▼

Second lock delay:  s

### Lock codes

	Code	Access	Time profile
1:	11	Phone ▼	[not used] ▼
2:	1591	Keypad ▼	[not used] ▼
3:	18	Phone ▼	[not used] ▼
4:	2640	Keypad ▼	[2] Week-end ▼
5:		Full ▼	[not used] ▼
6:		Full ▼	[not used] ▼
7:		Full ▼	[not used] ▼
8:		Full ▼	[not used] ▼
9:		Full ▼	[not used] ▼
10:		Full ▼	[not used] ▼

**Figure 3.17** Lock Settings

## Lock Settings

### Lock enabled

Enables or disables lock control globally. If disabled, the lock may not be opened with any of the codes entered (including the user lock codes).

### Switch-on time

Set the duration of the lock switch-on after the correct DTMF code has been entered.

### Lock synchronisation (for lock 2 only)

Enables lock synchronisation, which provides automatic activation of lock 2 after a defined period of time following the lock 1 activation. For the time interval see the Lock 2 delay parameter.

**Lock 2 delay (for lock 2 only)**

Set the time interval between the synchronised activations of lock 1 and 2. The parameter is applicable only if the Lock synchronisation function is enabled (see above).

---

**Lock Codes**

---

A list of the universal lock codes to be entered using a telephone set or the 2N<sup>®</sup> Helios IP keypad. The count of these global lock codes is 10 (or 3 for order Nos. 9137131(CK)E, 9137161(CK)E, 9137111(CK)E unless a licence key is used, order No. 9137901). In addition to these ten codes, each user may be assigned a user-dedicated unlocking code (for order Nos. 9137131(CK)E, 9137161(CK)E and 9137111(CK)E with a licence key only, order No. 9137901.)

**Access**

Disable code entering from the user's numeric keypad or telephone set.

**Time profile**

Assign a time schedule to the lock code for validity management. Refer to the Scheduler subsection for details on time schedule settings.

---

**Network**

---

This menu is used for setting the 2N<sup>®</sup> Helios IP network parameters. A change of any of these parameters will not show until the next 2N<sup>®</sup> Helios IP restart.

By default, obtaining the IP address from the DHCP server is switched on in 2N<sup>®</sup> Helios IP (DHCP client enabled). To find the IP address of your 2N<sup>®</sup> Helios IP, use the 2N<sup>®</sup> Helios IP Network Scanner program included on the CD. If, in your LAN, the DHCP server is not used or properly configured for your 2N<sup>®</sup> Helios IP, you can push the appropriate quick dialling button sequence to switch 2N<sup>®</sup> Helios IP into the fixed IP address mode (see the Switching to Default Network Parameters – Dynamic IP Address section).

---

**DHCP Settings**

---

**DHCP client enabled**

Switches on the function of obtaining the IP address from the DHCP server.

---

**Static Settings**

---

For Windows OS users: find the network parameters by entering *ipconfig -all* in the command line.

**Static IP address**

Set the static IP address assigned by your local network administrator.

**Network mask**

Set the network mask.

**Default gateway**

Set the default network gateway.

**Primary DNS**

Set the IP address of the primary Domain Name Server used in your LAN.

**Secondary DNS**

Set the IP address of the secondary Domain Name Server used in your LAN.

---

**NAT Settings**

---

These settings are applicable only if 2N<sup>®</sup> Helios IP is operated in a LAN and assigned no public IP address.

**External IP address**

Set the public IP address for your router to which 2N<sup>®</sup> Helios IP is connected. If 2N<sup>®</sup> Helios IP's IP address is public, leave this field blank.

The image shows a web-based configuration interface for network settings. At the top right, there is a logo consisting of a blue globe icon followed by the word "Network" in a large, black, sans-serif font. Below this, the interface is divided into two main sections: "DHCP settings" and "Static settings". The "DHCP settings" section on the left contains a label "DHCP client enabled:" followed by a dropdown menu currently set to "No". Below this is the "NAT settings" section, which includes a label "External IP address:" followed by an empty text input field. The "Static settings" section on the right contains five labels with corresponding text input fields: "Static IP address:" (192.168.22.233), "Network mask:" (255.255.255.0), "Default gateway:" (192.168.22.5), "Primary DNS:" (192.168.1.5), and "Secondary DNS:" (an empty field). In the bottom right corner of the configuration area, there are two icons: a document with a downward arrow and a left-pointing arrow.

Figure 3.18 Network Parameter Setting

## Date and Time

This menu helps you set the time zone and time synchronisation using the NTP server. For manual data and time setting refer to the **Chyba! Nenalezen zdroj odkazů.** section.

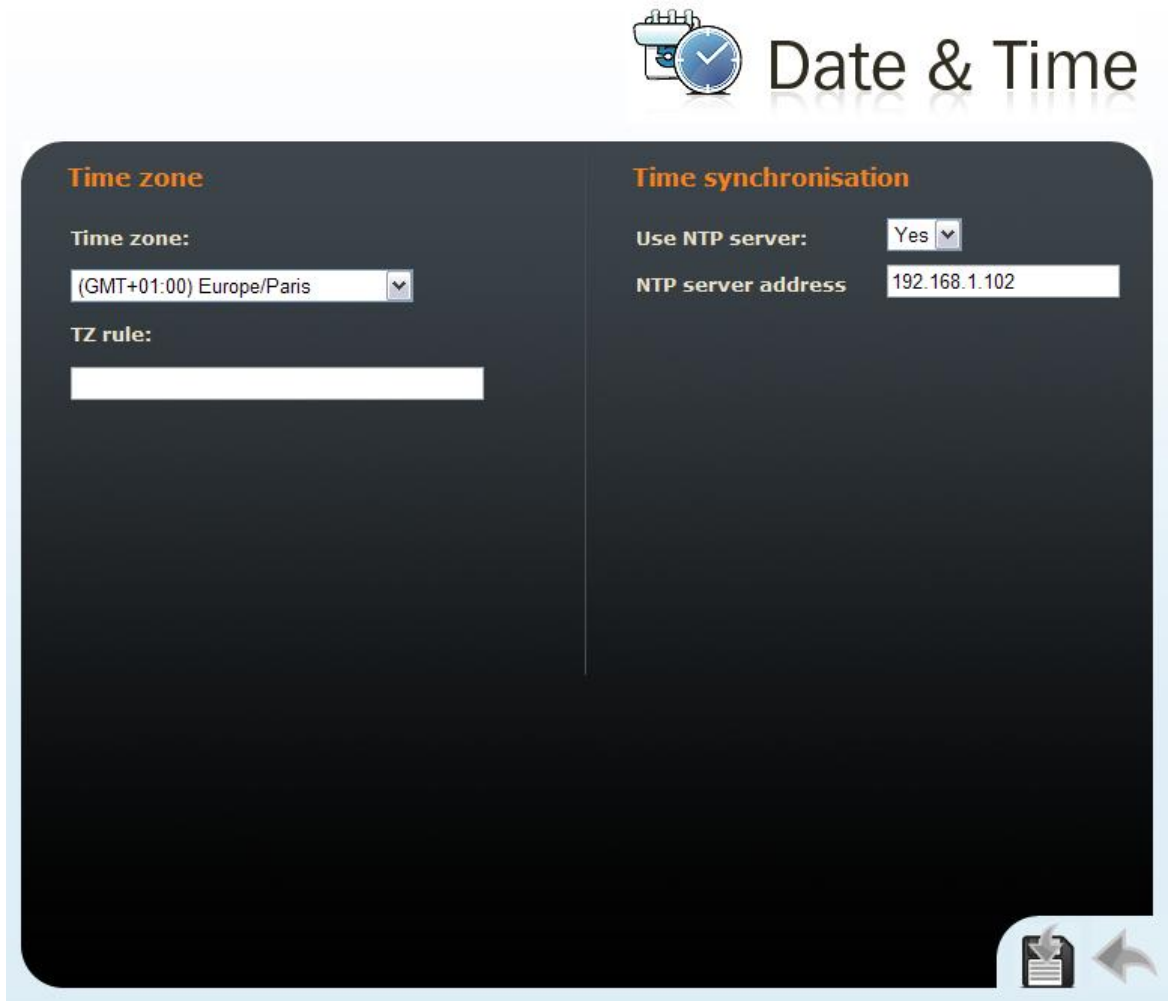
### Time Zone

#### Time zone

Set the time offset at the place of installation relative to the GMT – Greenwich Mean Time. This setting is intended for switching on/off the daylight saving time in spring and autumn.

#### TZ rule

If 2N<sup>®</sup> Helios IP is installed in a location not included in the Time zone parameter, specify the time shift offset and daylight saving time switch on/off manually here. Remember to set the Time zone to the Use TZ rule below function.



The image shows a web-based configuration interface for 'Date & Time' settings. At the top, there is a header with a calendar and clock icon and the title 'Date & Time'. Below this, the interface is divided into two main sections: 'Time zone' and 'Time synchronisation'. The 'Time zone' section includes a 'Time zone:' label, a dropdown menu currently showing '(GMT+01:00) Europe/Paris', and a 'TZ rule:' label with an empty text input field. The 'Time synchronisation' section includes a 'Use NTP server:' label with a 'Yes' dropdown menu, and an 'NTP server address' label with a text input field containing '192.168.1.102'. In the bottom right corner of the configuration area, there are icons for saving (a floppy disk) and navigating back (a left arrow).

**Figure 3.19** Date and Time Settings

---

## Time Synchronisation

---

### Use NTP server

Enable or disable the 2N<sup>®</sup> Helios IP synchronisation using the NTP (Network Time Protocol) server.

### NTP server address

Set the IP address of the NTP server for 2N<sup>®</sup> Helios IP time synchronisation.

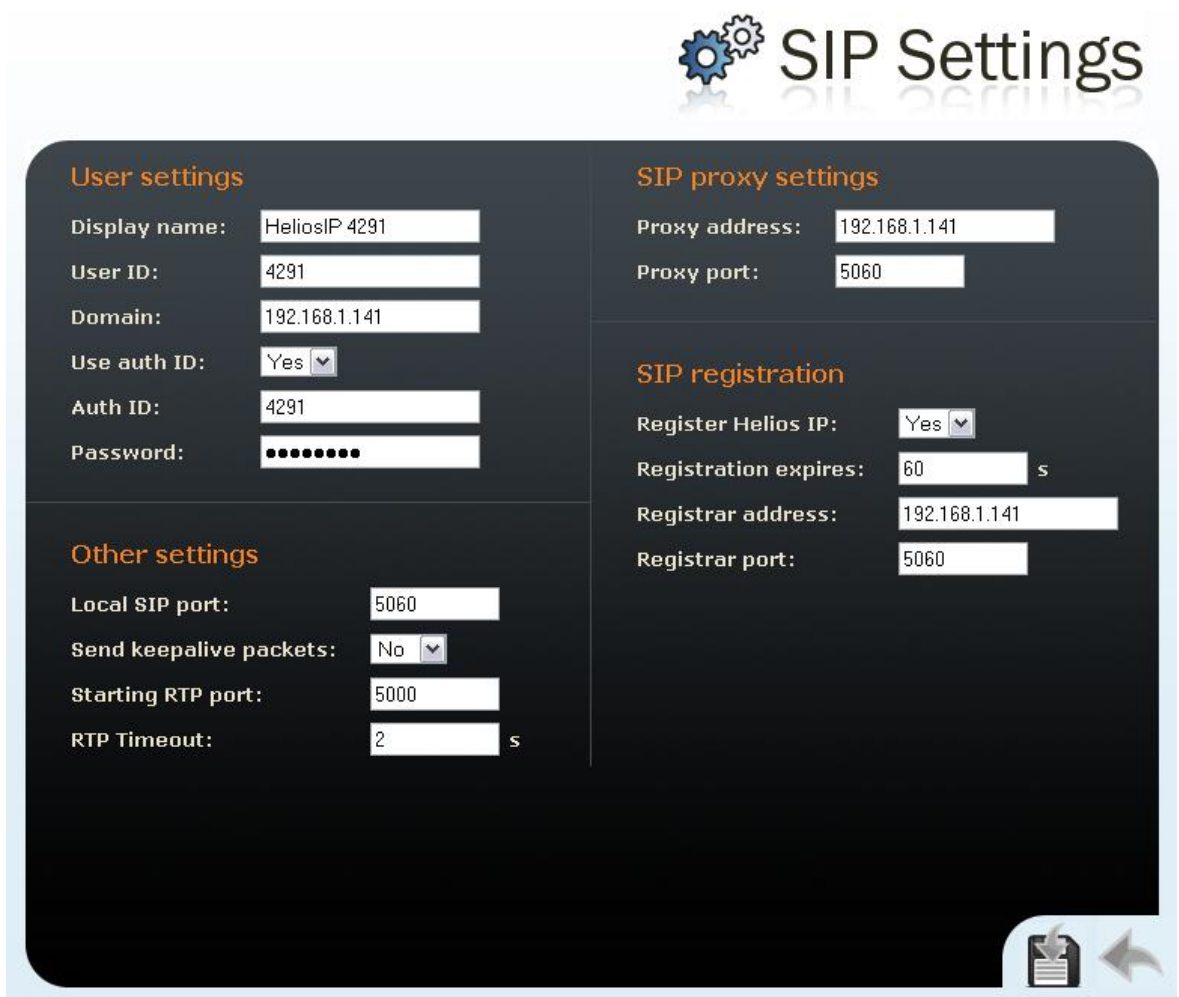
---

## SIP Settings

---

In order to set up calls from 2N<sup>®</sup> Helios IP, define your VoIP network parameters. To do this use the *Advanced settings* -> *SIP settings* menu.

Remember to restart 2N<sup>®</sup> Helios IP after setting the SIP parameters.



The image shows a web-based configuration interface titled "SIP Settings" with a gear icon. The interface is divided into three main sections: "User settings", "SIP proxy settings", and "SIP registration".

**User settings**

- Display name: HeliosIP 4291
- User ID: 4291
- Domain: 192.168.1.141
- Use auth ID: Yes (dropdown menu)
- Auth ID: 4291
- Password: 8 dots

**Other settings**

- Local SIP port: 5060
- Send keepalive packets: No (dropdown menu)
- Starting RTP port: 5000
- RTP Timeout: 2 s

**SIP proxy settings**

- Proxy address: 192.168.1.141
- Proxy port: 5060

**SIP registration**

- Register Helios IP: Yes (dropdown menu)
- Registration expires: 60 s
- Registrar address: 192.168.1.141
- Registrar port: 5060

At the bottom right, there is a save icon (floppy disk) and a back arrow icon.

**Figure 3.20** SIP Settings

## User Settings

### Display name

The name to be displayed to the called party. The name will also be displayed in the right-hand upper corner of the web interface and used for 2N<sup>®</sup> Helios IP identification in the 2N<sup>®</sup> Helios IP Network Scanner application.

### User ID

Set the user ID for registration.

### Domain

Enter the domain name or IP address of the server to be used for calling.

### Use authorisation ID

Set whether 2N<sup>®</sup> Helios IP should use the authorisation ID or user ID only for authorisation.

### Auth ID

Enter the authorisation ID to be used for authorisation if the Use authorisation ID parameter is set to Yes.

**Password**

Enter the password to be used for authorisation during registration and calling.

---

**Other Settings**

---

**Local SIP port**

Set the communication port to be used for SIP signalling by 2N<sup>®</sup> Helios IP. The change of this parameter will not show until the next 2N<sup>®</sup> Helios IP restart. The default value is 5060.

**Send KeepAlive packets**

Set whether or not 2N<sup>®</sup> Helios IP should periodically query about the state of the called station using the SIP OPTIONS requests during a call. Use this option to detect a disconnected or defective station.

**Initial RTP port**

Set the initial port for the range of 60 RTP ports to be used for audio and video transfers. The default value is 5000 (i.e. the range of 5060-5059).

**RTP Timeout**

Set the time limit for receiving audio stream RTP packets during a call. When the limit is exceeded, the call is terminated by 2N<sup>®</sup> Helios IP. Set 0 to disable this limitation.

---

**SIP Proxy Settings**

---

**Proxy address**

Set the IP address of the SIP proxy used by 2N<sup>®</sup> Helios IP for calling.

**Proxy port**

Set the SIP signalling port to the SIP proxy.

---

**SIP Proxy Registration**

---

**Register 2N<sup>®</sup> Helios IP**

Set whether 2N<sup>®</sup> Helios IP should register with the SIP proxy.

**Registration expires**

Set the minimum time for 2N<sup>®</sup> Helios IP registration attempts.

**Registrar address**

Set the registrar IP address.

**Registrar port**

Set the registrar communication port.

## Administration Web Server

This menu helps you configure the administration web server.

### Web Server Settings

**Web server**

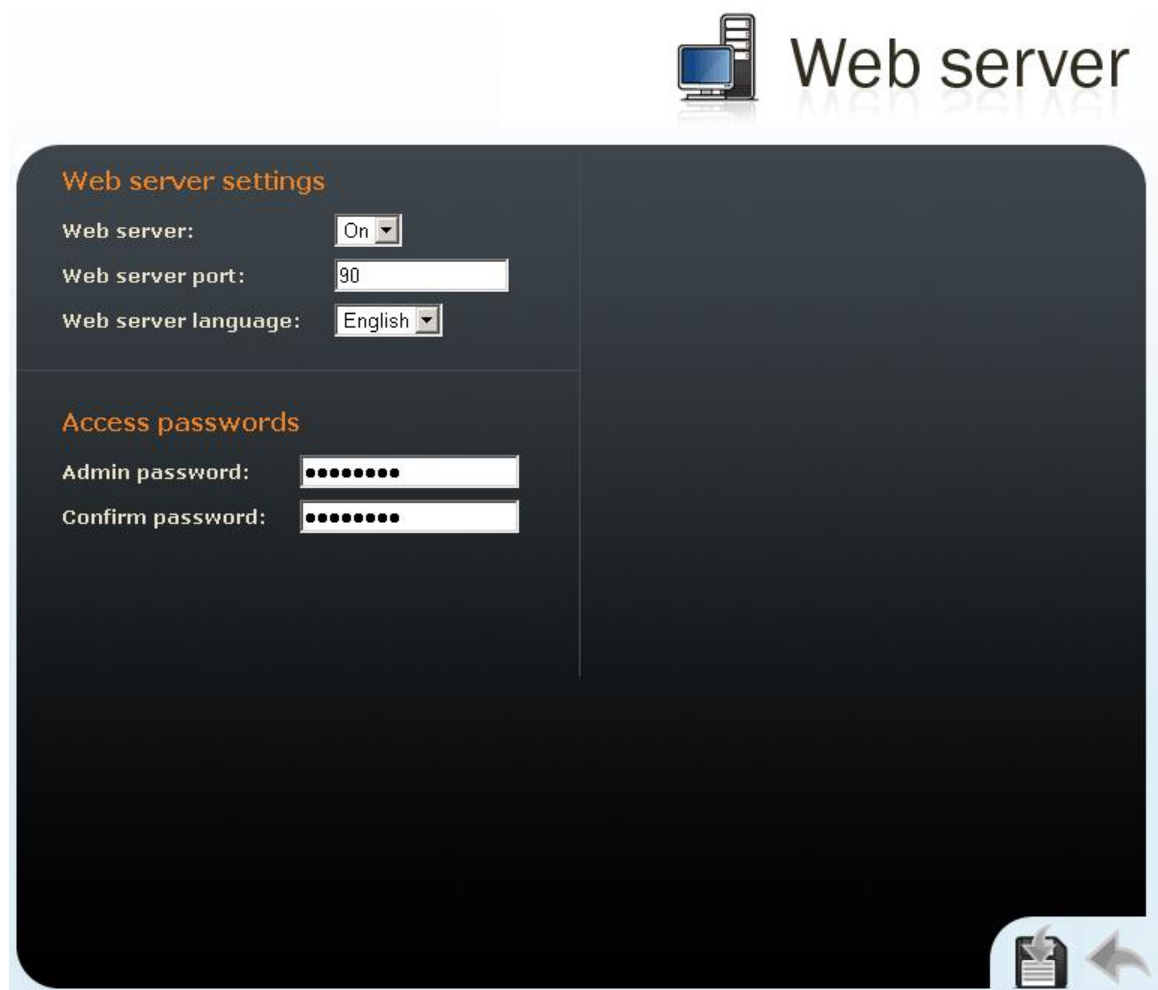
You can disable the administration web server launching. The change of this parameter will not show until the next 2N<sup>®</sup> Helios IP restart. To enable the web server, follow the instructions mentioned in the Web Server subsection.

**Web server port**

Set the web server communication port. The change of this parameter will not show until the next 2N<sup>®</sup> Helios IP restart

**Web server language**

Set the default language after login to the web server.



**Figure 3.21** Web Server Configuration



---

## Access Passwords

---

### Admin password

Set the administrator password for 2N<sup>®</sup> Helios IP configuration through the administration web server. Enter the new password into both of the Admin password and Confirm password fields.

## Audio

This menu is used to set the 2N® Helios IP audio parameters.

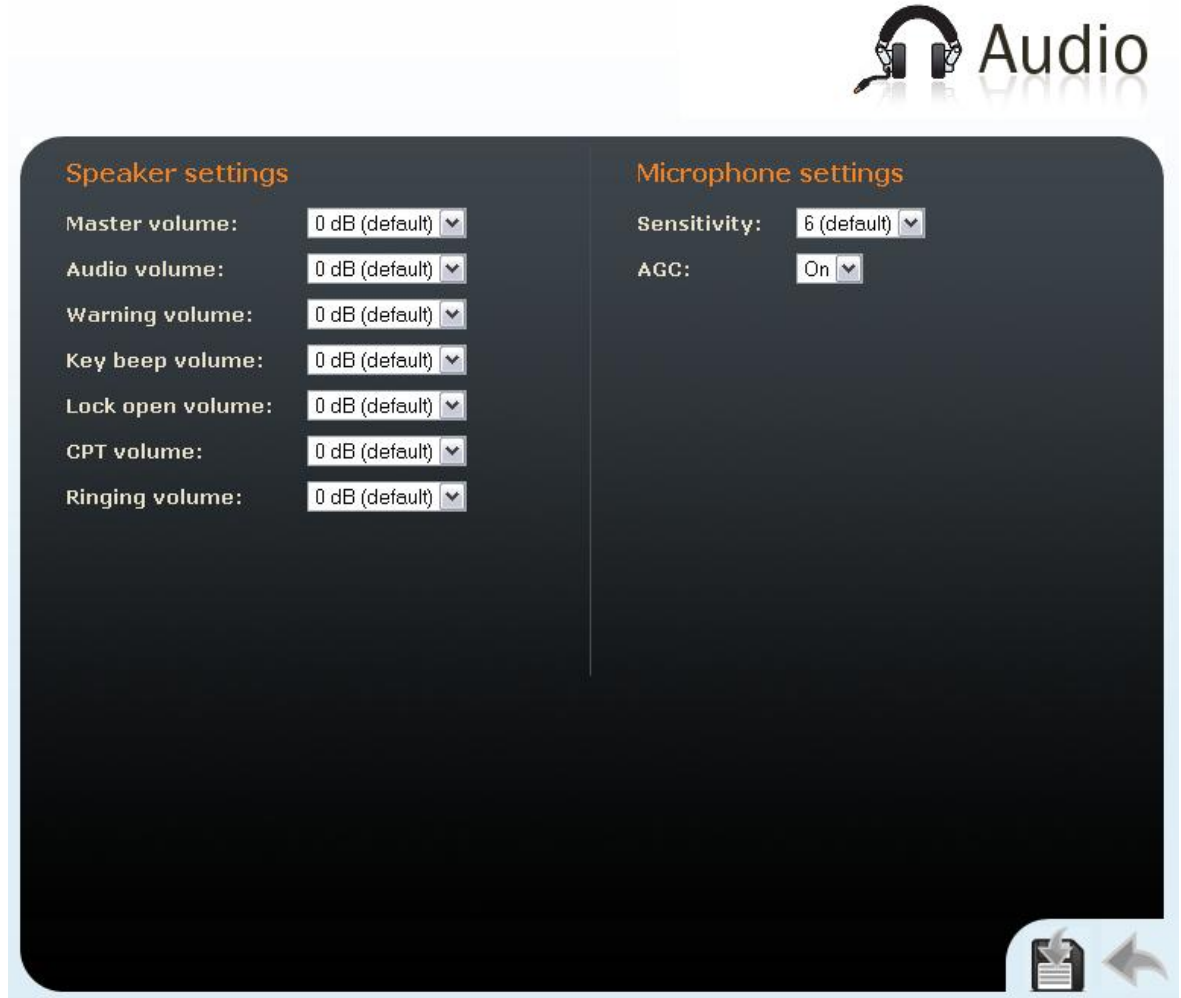


Figure 3.22 Audio Parameter Settings

### Speaker Settings

#### Master volume

Set the global loudspeaker volume. This parameter controls the volume of the calls and all acoustic signalling.

#### Audio volume

Adjust the loudspeaker volume for a call.

#### Warning volume

Set the volume of the 2N® Helios IP signal tones that announce status changes.

#### Key beep volume

Set the volume of the tone generated whenever a key is pushed.

**Lock open volume**

Set the volume of the unlocking signalling tone.

**Call tones**

Set the volume of the dialling, ringing and busy tones if generated by 2N® Helios IP.

**Ringing**

Set the volume of the incoming call signalling tone – ringing tone. Incoming calls are signalled when the automatic incoming call receiving function is off, see the Miscellaneous section.

---

**Microphone Settings**

---

**Sensitivity**

Set the microphone sensitivity.

**AGC (Automatic Gain Control)**

Set whether the Automatic Gain Control function should be used.

**Noise reduction**

Set the mode for noise reduction arising primarily during echo cancellation.

---

**Video**

---

This menu is used to set the video camera. To set the codec properties use the *Advanced Settings* -> *Video codecs* menu, see the Video Codecs subsection.

**Brightness**

Set the intensity of the video camera stream.

**Colour saturation**

Set the colour saturation of the video camera stream.

**Flip horizontally**

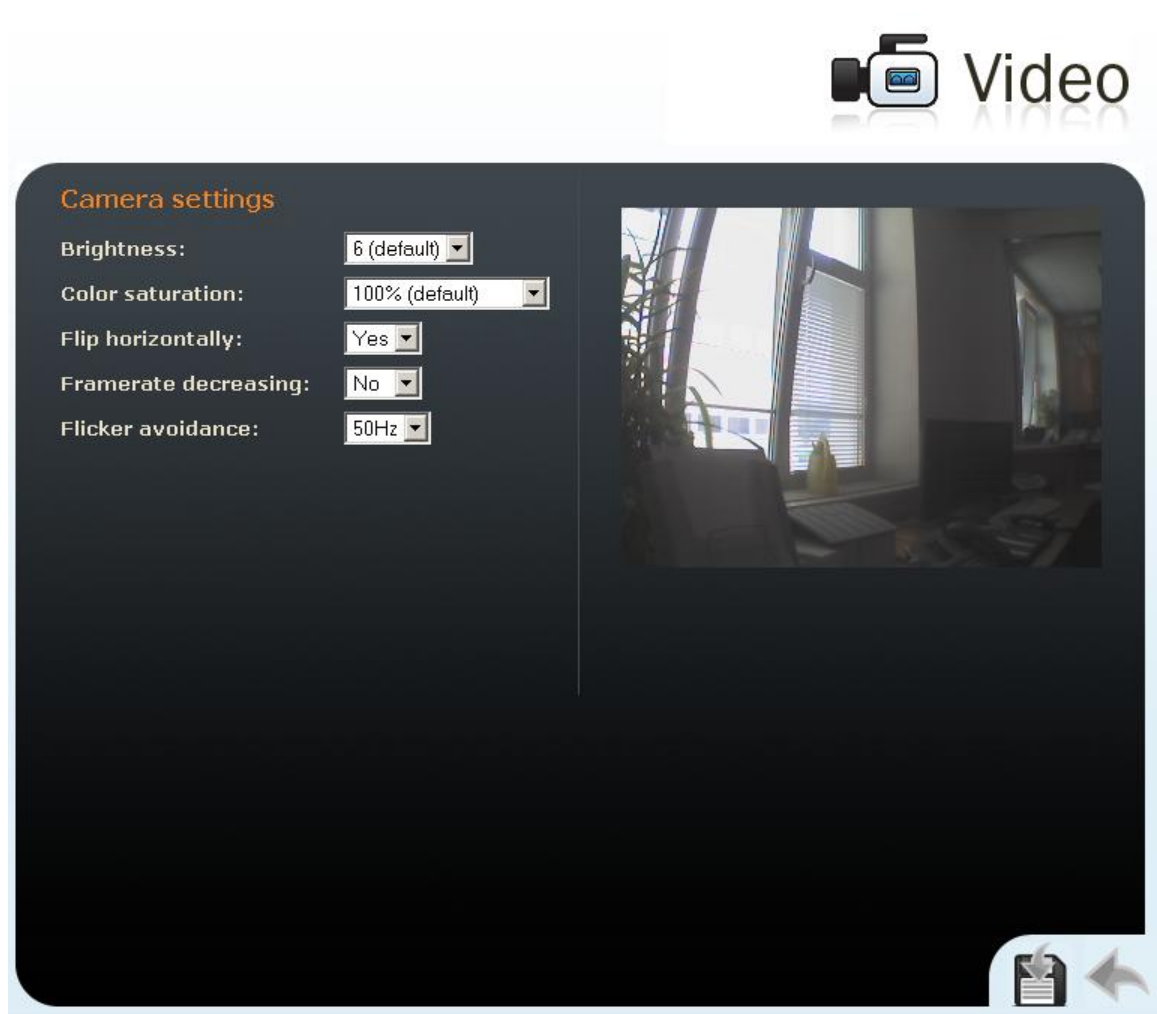
Set whether the picture is to be flipped horizontally.

**Frame rate decreasing**

Enable an automatic decreasing of the frame rate under poor light conditions, which improves the video quality to the detriment of the frame rate.

**Flicker avoidance**

Here you can eliminate flicker caused by artificial sources of light such as fluorescent lamps. The flicker frequency depends on the light source power supply frequency.



**Figure 3.23** Video Parameter Settings

## Audio Codecs

This tag is used for configuration of priorities of the use of audio codecs.

### Preferred Audio Codecs

Set the priority of audio codecs for the call to be set up.

### Transmission Quality Settings

#### Jitter compensation

Set the buffer length to compensate jitter caused by variable delays between incoming RTP packets. A longer buffer means a better transmission quality yet a higher transmission delay.

#### QoS DSCP for audio

Set the priority of the audio transmitting packets in the network. The value is copied into the ToS (Type of Service) field in the IP packet header.



### Caution

- Wrong settings may deteriorate the transfer quality. Do not change this parameter if you are not sure. The change in transfer quality will show only in case the network components support this service.

**Audio Codecs**

**Preferred audio codecs**

Choice 1:

Choice 2:

Choice 3:

Choice 4:

**Quality settings**

Jitter compensation:

QoS DSCP for audio:

**Receiving of DTMF**

Receive in audio:

Receive via RTP:

Receive via SIP:

**Sending of DTMF**

Send during a call:

Send in audio:

Send via RTP:

Send via SIP:

**Figure 3.24** Audio Codec Settings

## DTMF receiving and Sending

Defines how DTMF signalling should be received and sent. Check the opponent's parameters for correct settings.

1. Receive as audio / Send as tones – transmits the DTMF signals in the audio channel. This setting is unsuitable for cases where the audio channel is comprised using high-compression codecs such as GSM codecs.
2. Receive as RTP / Send as RTP – transmits DTMF signalling as special RTP packets according to the RFC2833 recommendation.
3. Receive as SIP INFO / Send as SIP INFO – transmits DTMF signalling using the SIP INFO packets as recommended in RFC2976.

To send DTMF signalling during a call use the 0 to 9, \* and # keys. You can also disable this function, enable for outgoing calls only, or enable for incoming and outgoing calls by setting the Send during call parameter.

## Video Codecs

2N® Helios IP uses video codec H.264. You can set its parameters in such a manner that the video transmitted conforms to the needs of the opponent.



**Figure 3.25** Video Codec Settings

### H.264 Video Codec Settings

#### Video resolution

Set the picture formats of the video transmitted. The resolution values range from QCIF (176x144) to VGA (640x480).

#### Frame rate

Set the frame rate for frames to be sent by 2N® Helios IP to the VoIP network.

#### Video bit rate

Set the transmission rate for video transmission from 2N® Helios IP. The lower the bit rate the greater picture compression is necessary. This results in a lower picture quality on the receiving end. A high bit rate does not have to mean significant improvement of transmission as a whole because the network may get overloaded, resulting in a greater packet loss rate or delay.

**Video packet size**

Set how large the video transmitting packet should be.

---

**Quality Settings**

---

**QoS DSCP for video**

Set the priority of the video transmitting packets in the network. The value is copied into the ToS (Type of Service) field in the IP packet header.

**Caution**

- Wrong settings may deteriorate the transfer quality. Do not change this parameter if you are not sure. The change in the transfer quality will show only in case the network components support this service.

---

**Advanced RTP Settings**

---

**RTP payload type**

Set the Media Format value of the Media attribute (a) in the SPD part of the INVITE message. Some SIP proxies require this value for a successful video call set-up. If 0 is selected, the given RTP payload type is not used. It is necessary to disable one RTP payload type in some SIP proxies, e.g. the Cisco Call Manager.

**Caution**

- Wrong settings may result in a loss of network compatibility. Do not change this parameter if you are not sure. Losing network compatibility may cause video transmission errors.

**Polycom phone compatibility**

Set compatibility of SDP messages with some Polycom and Cisco phones. With this mode on, 2N<sup>®</sup> Helios IP does not include the sendonly flag in the codec specification for video streams.

---

**Streaming**

---

This function is available to 2N<sup>®</sup> Helios IP order Nos. 9137131(CK)E, 9137161(CK)E and 9137111(CK)E with a valid licence key only, order No. 9137901.

This menu allows the user to enable audio and video streaming into your LAN without affecting the other functions of 2N<sup>®</sup> Helios IP. This function may be used for security purposes. An RTSP supporting receiver is required for acceptance of audio and video streaming. For this purpose, it is possible to download the VLC Media player software free of charge. For the VLC media player configuration see below.

## RTSP Server

### RTP server

Enable and disable audio and video streaming.

### Allow IP address

Specify the allowed IP address of the stream-receiving user. If the value is not entered, you can require the stream from any IP address.



### Caution

- 2N® Helios IP enables to send a single stream at a time. When a stream request comes from another IP address, the current stream is discontinued and the stream is distributed to the IP address that sent the request.

### Enable audio stream

Set whether the audio channel is part of the stream transmitted.

### Enable video stream

Set whether the video channel is part of the stream transmitted.



RTSP server	
RTSP server:	On
Allowed IP address:	
Enable audio stream:	Yes
Enable video stream:	Yes

Video codec settings	
Video codec:	H.264/MPEG-4 AVC
Video resolution:	CIF (352x288)
Frame rate:	15 fps
Video bitrate:	512 kbps
Video packet size:	1400 B

Quality settings	
QoS DSCP for audio:	0
QoS DSCP for video:	0

JPEG video settings	
Anonymous access:	No
Activated by call:	No
JPEG frame rate:	5 fps
JPEG quality:	85

Figure 3.26 Video Streaming Setting



---

## Quality Settings

---

### QoS DSCP for video

Set the priority of the video transmitting packages in the network. The value is a decimal number and defines individual bits in the ToS (Type of Service) field in the IP packet header (bits 8–16).



### Caution

- Wrong settings may deteriorate the transfer quality. Do not change this parameter if you are not sure. The change in transfer quality will show only in case the network components support this service.

---

## Video Codec Settings

---

### Video codec

Set one of the following codec modes for video streaming: H.264/MPEG4-AVC or MPEG4 Part2.

### Video resolution

Set the individual picture formats for the video transmitted. The resolution values range from QCIF (176x144) to VGA (640x480).

### Frame rate

Set the frame rate for frames to be transmitted.

### Video bit rate

Set the bit rate for video transmission. The parameter affects the compression ratio and thus the video transmission quality.

### Video packet size

Set the size limits for the video transmitting RTP packet.

---

## VLC Set-Up for Streaming Video from 2N<sup>®</sup> Helios IP

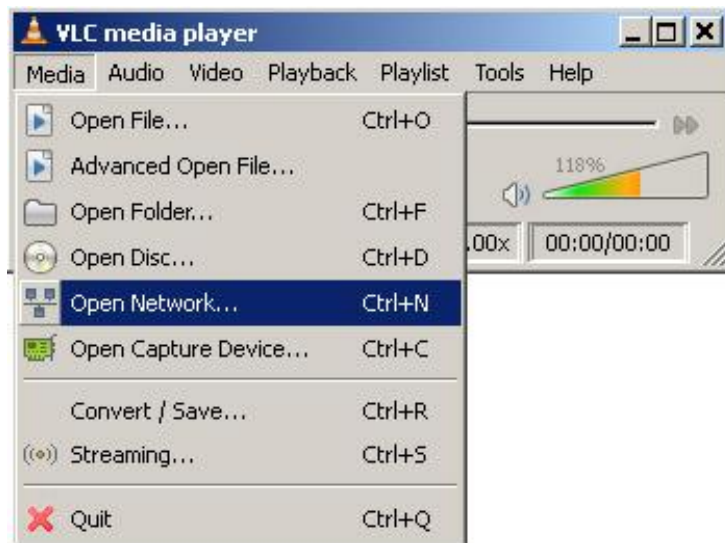
---

1. Install the VLC Media player application (version 0.9.4 in this manual).
2. After installation and start, the window will be displayed as shown in the figure below.



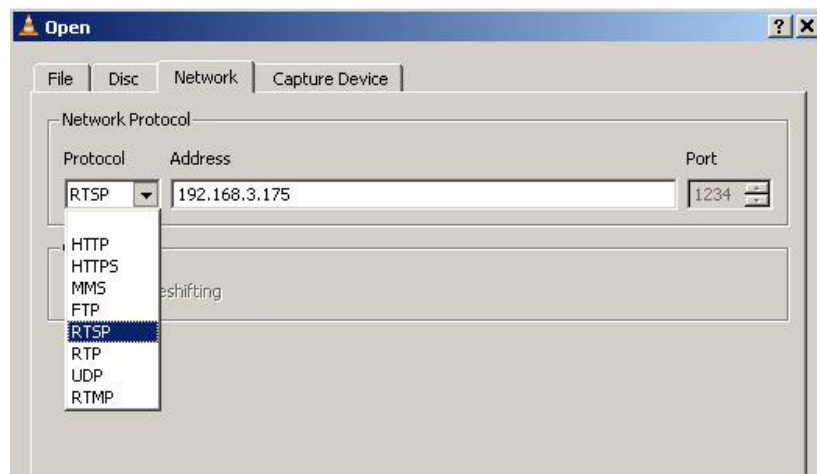
**Figure 3.27** VLC Media Player Main Window

3. In the main menu select the source for playing the video, *Media->Open Network*.



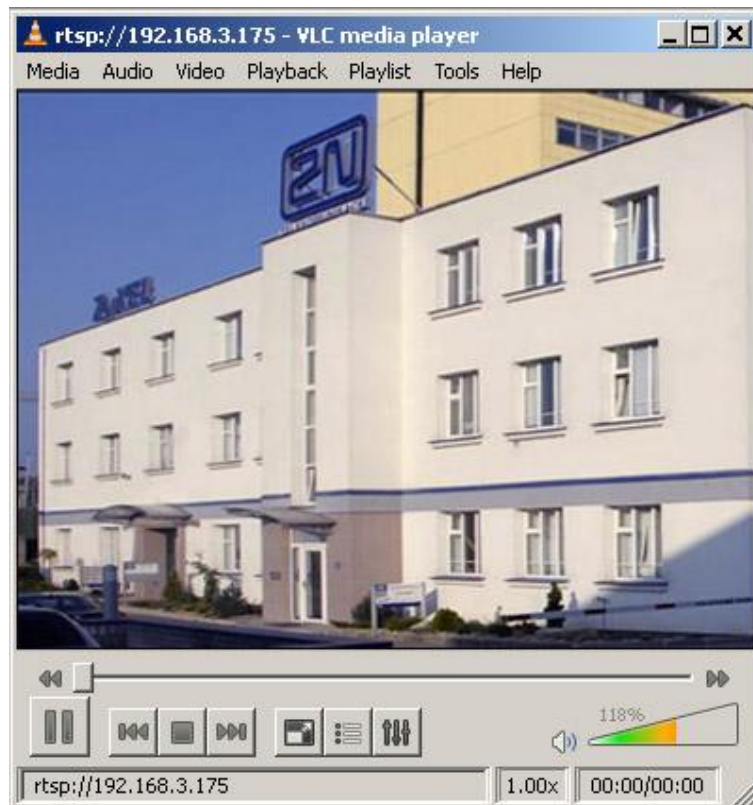
**Figure 3.28** Open Network Connection

4. In the network card select the RTSP protocol and insert the IP address of the 2N® Helios IP device that is sending the video streaming (192.168.3.175 in this case).



**Figure 3.29** RTSP Stream IP Address Setting

5. After the confirmation button OK is pushed, the video player window will appear.



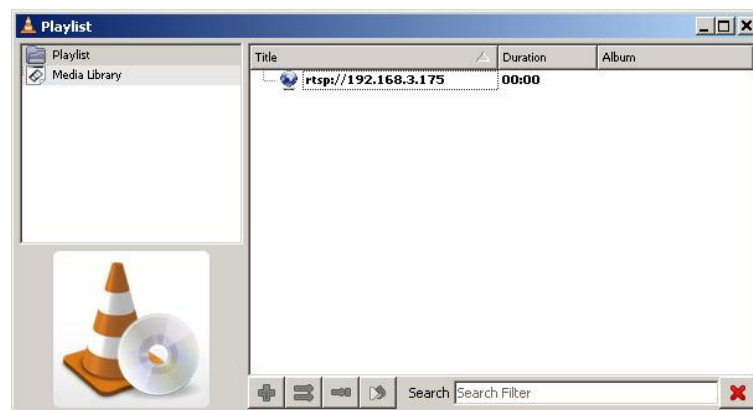
**Figure 3.30** Streaming Video Receiving

6. Push the STOP button to stop receiving the video signal.
7. Open a window of the playlist, *Playlist* -> *Show playlist*.



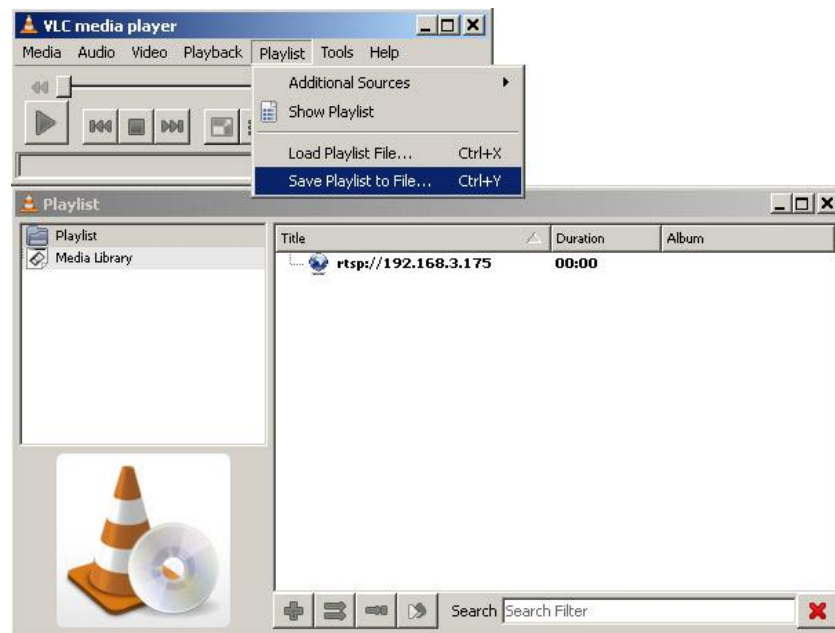
**Figure 3.31** Show Playlist

8. The playlist window will display the list of played records, in this case the RTSP stream from 2N<sup>®</sup> Helios IP (IP address 192.168.3.175).



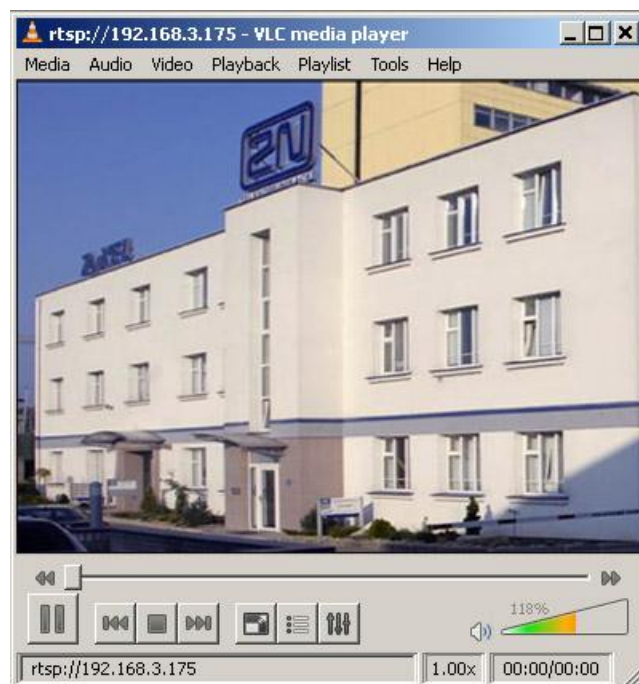
**Figure 3.32** Playlist Window

9. Save the playlist using the *Playlist -> Save playlist to file...* menu.



**Figure 3.33** Save Playlist

10. From now on, whenever opened, the playlist will immediately display video streaming from the selected 2N<sup>®</sup> Helios IP device.



**Figure 3.34** Streaming Video Receiving

---

## JPEG Video Setting

---

### Anonymous access

You can download a JPEG video from any IP address without authentication. Otherwise, the video is only accessible after login or during a call if the Call activation is enabled.

### Call activation

Set whether the JPEG video is available to the terminal upon the call beginning. The function must be supported by the terminal (Snom 820/870, e.g.).

### Frame rate

Set the transmission rate to be offered to the end terminal.

### JPEG quality

Set the JPEG image quality. The recommended value is 85. The parameter affects the image size and quality.

---

## JPEG Video Use

---

- The JPEG video can be used for any application that is capable of downloading JPEG images from 2N<sup>®</sup> Helios IP web interface.

- To load an image from a camera enter any of the links below in your web browser:

[http://adresa\\_helios\\_ip/enu/camera160x120.jpg](http://adresa_helios_ip/enu/camera160x120.jpg)

[http://adresa\\_helios\\_ip/enu/camera320x240.jpg](http://adresa_helios_ip/enu/camera320x240.jpg)

[http://adresa\\_helios\\_ip/enu/camera352x272.jpg](http://adresa_helios_ip/enu/camera352x272.jpg)

[http://adresa\\_helios\\_ip/enu/camera352x288.jpg](http://adresa_helios_ip/enu/camera352x288.jpg)

[http://adresa\\_helios\\_ip/enu/camera640x480.jpg](http://adresa_helios_ip/enu/camera640x480.jpg)

Be sure to enable the Anonymous access to the JPEG video (see above) for this function.

- You can assign displaying JPEG images to a Snom 820/870 terminal button. To do this, set the Action URL function and enter one of the commands below as the parameter:

[http://adresa\\_helios\\_ip/enu/snom820-video.xml](http://adresa_helios_ip/enu/snom820-video.xml), or

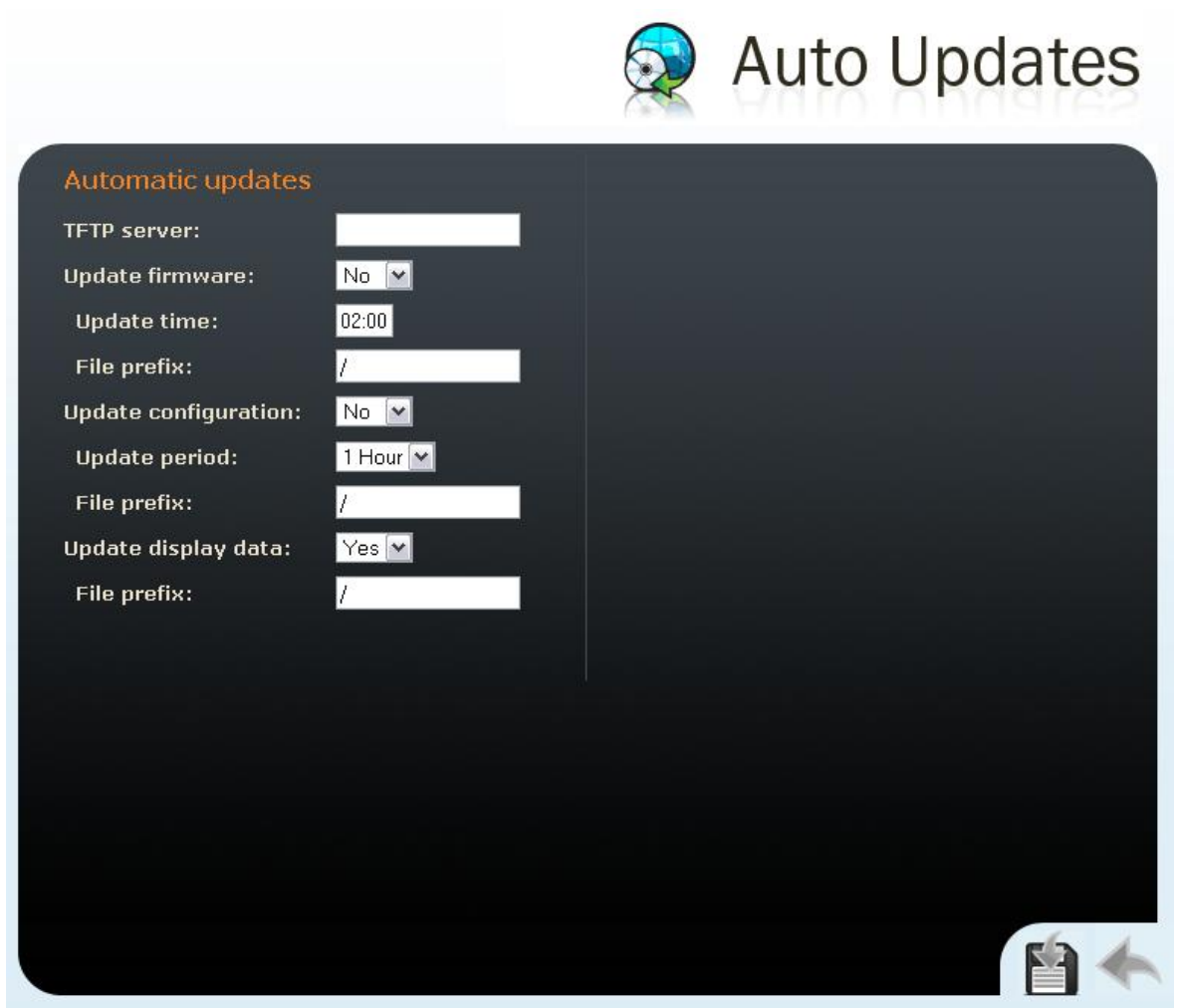
[http://adresa\\_helios\\_ip/enu/snom870-video.xml](http://adresa_helios_ip/enu/snom870-video.xml).

---

## Auto Update

---

2N<sup>®</sup> Helios IP allows both for manual and automatic updates of configuration and firmware. The automatic update is done through a TFTP server. For order Nos. 9137131(CK)E, 9137161(CK)E and 9137111(CK)E this function is supported only if a licence key is inserted, order No. 9137901.



**Figure 3.35** Firmware Update

---

## Automatic Update

---

### TFTP server address

The IP address of the TFTP server where the firmware and configuration are located that are to be automatically uploaded to 2N<sup>®</sup> Helios IP.

### Update firmware

Enable/disable automatic firmware downloading from the TFTP server.

### Update time

Set a period for automatic firmware downloading attempts from the TFTP server. 2N<sup>®</sup> Helios IP periodically (at a predefined time once a day) checks the TFTP server for a later firmware version. Having found one, 2N<sup>®</sup> Helios IP updates the firmware and restarts automatically. With this parameter you can choose the most convenient time of a day for updating (when 2N<sup>®</sup> Helios IP is not very busy).

**File prefix**

Specify the TFTP firmware directory path or file prefix. 2N® Helios IP expects the firmware file to be named Xiphelios\_app.bin, where X is the prefix specified in this parameter.

**Update configuration**

Enable or disable automatic configuration downloading from the TFTP server.

**Update period**

Set the time interval after which 2N® Helios IP gets connected to the TFTP server for configuration file downloading.

**File prefix**

Specify the TFTP configuration directory path or file prefix. 2N® Helios IP expects the configuration file to be named Xiphelios\_config.ini, where X is the prefix specified in this parameter.

**Update display data**

Enable/disable automatic display data/program updating from the TFTP server. The display data are updated in the same time intervals together with the configuration file.

**File prefix**

Specify the TFTP display data directory path or file prefix. 2N® Helios IP expects the configuration file to be named Xiphelios\_disp.bin, where X is the prefix specified in this parameter.

## Display

---

The 9137161KDE and 9137161CKDE 2N® Helios IP models are equipped with a colour TFT display, which shows variable information such as digital name tags, telephone directories, 2N® Helios IP statuses and/or user-defined images. You can set the basic display parameters in this menu. For the display data uploading to 2N® Helios IP refer to the

Display Program.



Figure 3.36 Display

---

## Display Settings

---

### Display enable

Enable or disable the display use.

### Maximum idle timeout (ads)

Set the maximum display idle time (i.e. when the user does not control the device using the buttons or numeric keypad), after which the advertisement or user-defined image displaying mode is switched on automatically.

### Maximum idle timeout (name tags)

Set the maximum display idle time (i.e. when the user does not control the device using the buttons or numeric keypad), after which the structured telephone directory mode is switched into the name tag displaying mode.

### Search mode

Set the mode of searching users in the telephone directory displayed. Either use the initial name characters (prefixes) or every occurrence of the set characters in the name (any occurrence).



## System Log

This menu is used for configuration of system and log message sending. This service is useful for solving 2N® Helios IP errors if any and contacting the 2N TELEKOMUNIKACE a.s. Technical Support. Normally, it is not necessary to configure this menu. To receive syslog messages, a syslog server has to be installed in your PC.

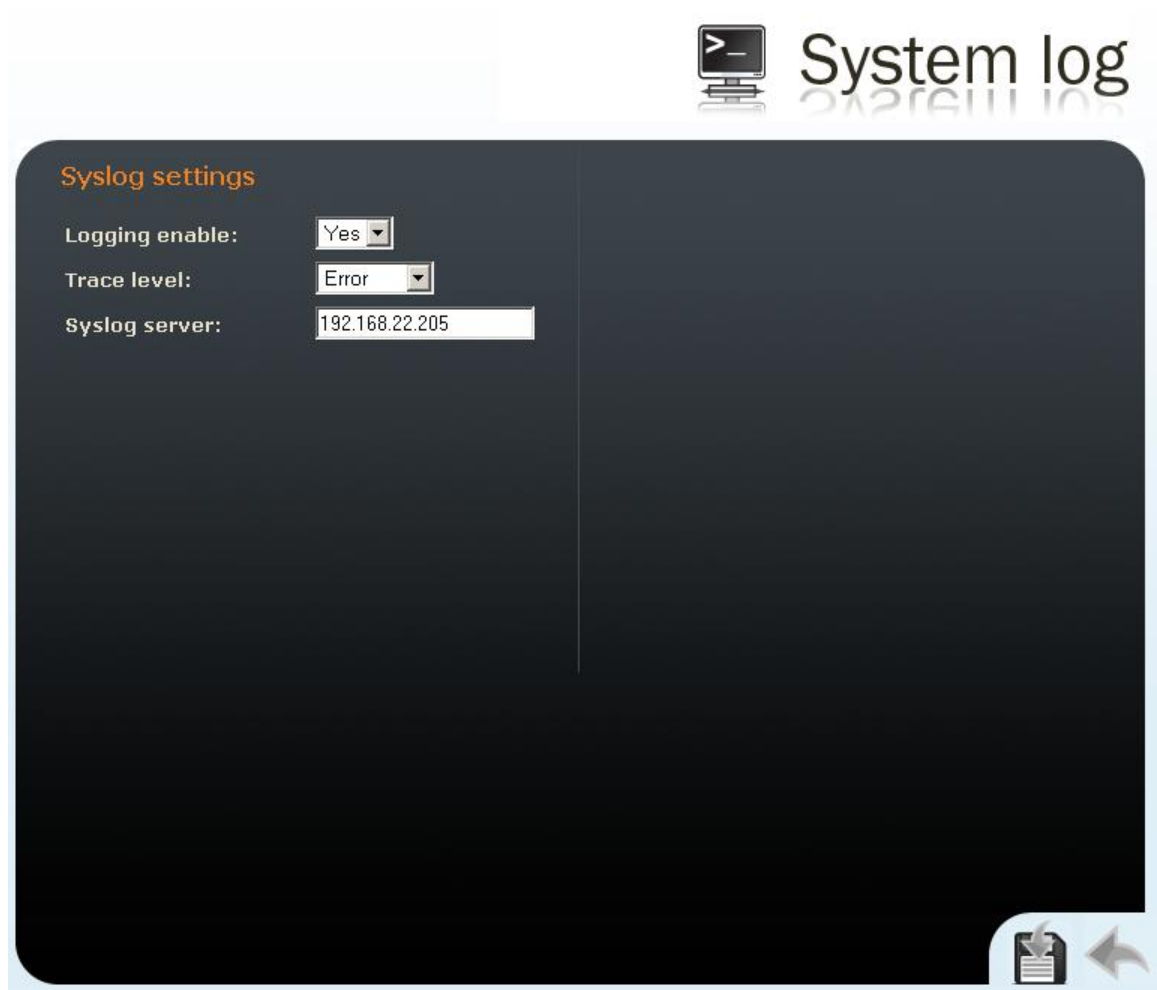


Figure 3.37 System Log

### Logging enable

Enable or disable sending of system and log reports and storing them on the syslog server.

### Trace level

Set the level of detail of the reports.

### Syslog server

The IP address of the server on which the system log application is running.

## Miscellaneous

Here set the additional parameters of 2N® Helios IP that were not included in the above-described menus.

## Miscellaneous

### Outgoing calls

Ring time limit:  s

Call time limit:  s

Dial cycles limit:

### Incoming calls

Automatic pick up:

Activation mode:

Activation code:

Beep on connect:

### Keyboard settings

Hang up by # button:

Same button function:

Quick dial by numbers:

Floor & Apartment dialing:

Next keypress timeout:  s

Enable telephone mode:

Dial digits limit:

Legacy lock code:

### Other settings

Backlight level:

DHCP on/off by buttons:

**Figure 3.38** Miscellaneous Settings

## Outgoing Calls

### Ring time limit

Set the call set-up and ringing time limits for outgoing calls. If the calls are routed through the GSM gateways of order Nos. 505004, 505214 or 505612 to the GSM network, it is advisable to set a time value longer than 20 s.

### Call time limit

Set the maximum call duration. When the call end is approaching, 2N<sup>®</sup> Helios IP starts generating tones signalling the end of the call. The call will automatically be terminated 10s after this signal. To prolong the call, send a DTMF code (push #, e.g.) on your phone.

### Dial cycles limit

Set the maximum count of telephone directory searching attempts. The function is useful whenever the substitute is defined and in the case of deadlock.

---

## Incoming Calls

---

### Automatic answer

Defines how 2N® Helios IP should behave when a call is coming. If the Automatic answer is disabled, 2N® Helios IP signals an incoming calls by ringing and the external subscriber can answer or reject the call by pushing \* or # respectively. If the Automatic answer is enabled, 2N® Helios IP receives the call automatically and processes as selected in the Activation mode and Activation code parameters.

### Activation mode

If the Automatic answer is enabled, incoming calls are received automatically by 2N® Helios IP. 2N® Helios IP enables you to receive up to 3 incoming calls at the same time. You can control 2N® Helios IP through incoming calls using tone dialling from your telephone keypad (activate or deactivate users or profiles, e.g.). A single incoming call may only be connected with the 2N® Helios IP microphone, loudspeaker and camera. Use the Activation mode parameter to define whether the incoming call should be connected automatically, or the activation code should be required for connection (see below).

### Activation code

Set the activation code necessary for interconnecting the incoming call audio and video if the Automatic answer is enabled and the Activation code is set to Manual.

### Beep on connect

Use this parameter to enable/disable 2N® Helios IP connection signalling by a beep during an incoming call.

---

## Keyboard Settings

---

### Hang up by # button

Enable call termination with the # key.

### Same button function

Assign a function to the call-establishing quick dialling button when re-pushed.

**None** – re-pushing the quick dialling button does not affect the set up or active call.

**Hang-up** – re-pushing the quick dialling button ends the set-up or active call.

**Dial next** – re-pushing the quick dialling button allows you to skip an attempt to set up a call and proceed to the next telephone number in the directory for another set-up.

**Flash** – re-pushing the quick dialling button sends the FLASH signal into the active call.

**Quick dialling using digits**

Enable user calling from the telephone directory by dialling the user number (two or three digits) and confirmation with \*.

**Floor & Apartment dialling**

Enable special calling to numbers included in the telephone directory by entering a floor number on the numerical keypad and pushing a quick dialling button. Buttons 1 – 6 represent apartments on the floor (A through F). The following floors and apartments are assigned to telephone directory positions: 01A – 1, 01B – 2, 01C – 3, 01D – 4, 01E – 5, 01F – 6, 02A – 7, 02B – 8 etc. until 99F – 594.

**Keystroke timeout**

Set the delay between two digits when entering a code or telephone number using the 2N<sup>®</sup> Helios IP keypad.

**Enable telephone mode**

Enable to set up calls directly to the telephone numbers entered from the 2N<sup>®</sup> Helios IP numeric keypad using the \*telephone\_number\* key sequence.

**Dial digits limit**

Define the maximum number of digits of a telephone number in the Telephone mode. When the defined count is reached, the telephone number is dialled automatically without the need to push \* subsequently.

**Legacy lock code**

Set whether the first code in the lock 1 and lock 2 list may be entered from a VoIP phone valid without an \* confirmation.

---

**Other Settings**

---

**Backlight level**

Set the level of the keypad backlight.

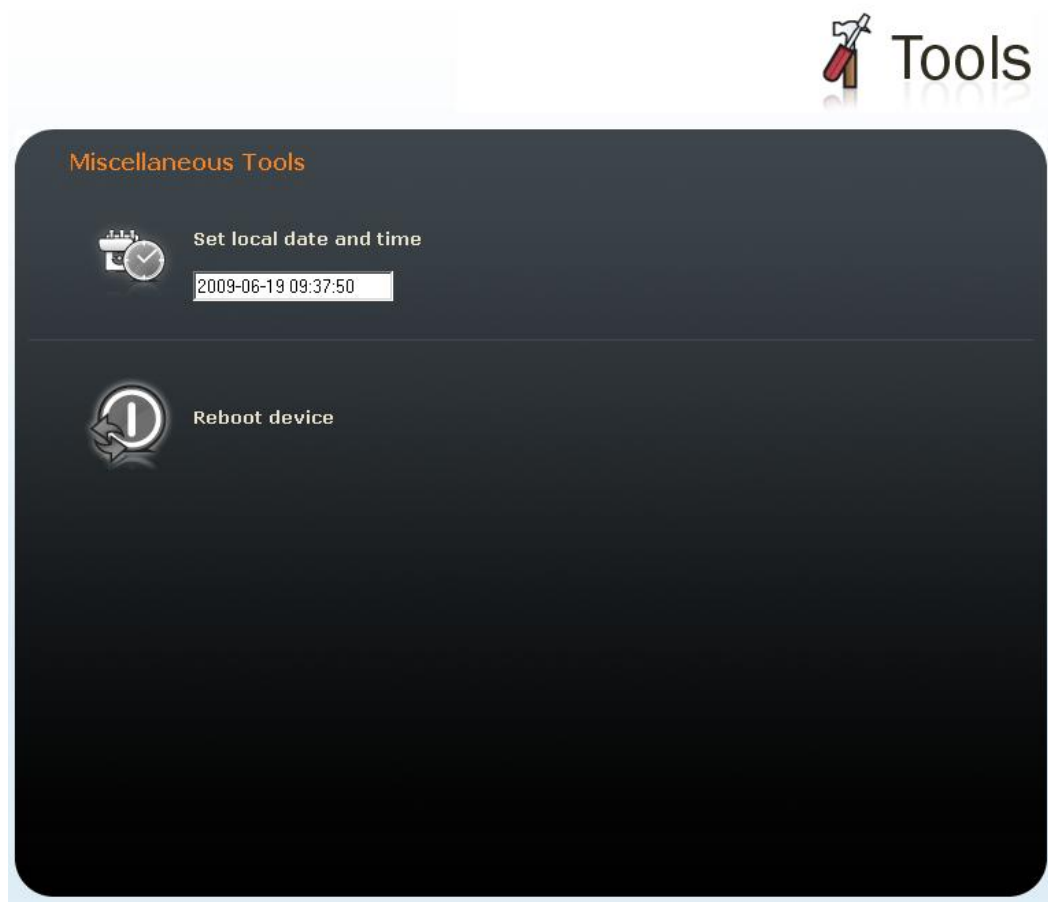
**DHCP on/off by buttons**

Set whether a quick dialling button combination may switch to obtaining the IP address from the DHCP server upon the 2N<sup>®</sup> Helios IP restart as described in the Switching to Default Network Parameters – Dynamic IP Address section.

## Tools

---


This menu helps you set the 2N® Helios IP date and time manually and reboot the device.



**Figure 3.39** Tools

---

### Local Date and Time Setting

Used for date and time setting in case the NTP synchronisation is disabled (see the Date and Time subsection). Push the  button to synchronise the 2N® Helios IP time with your PC time.

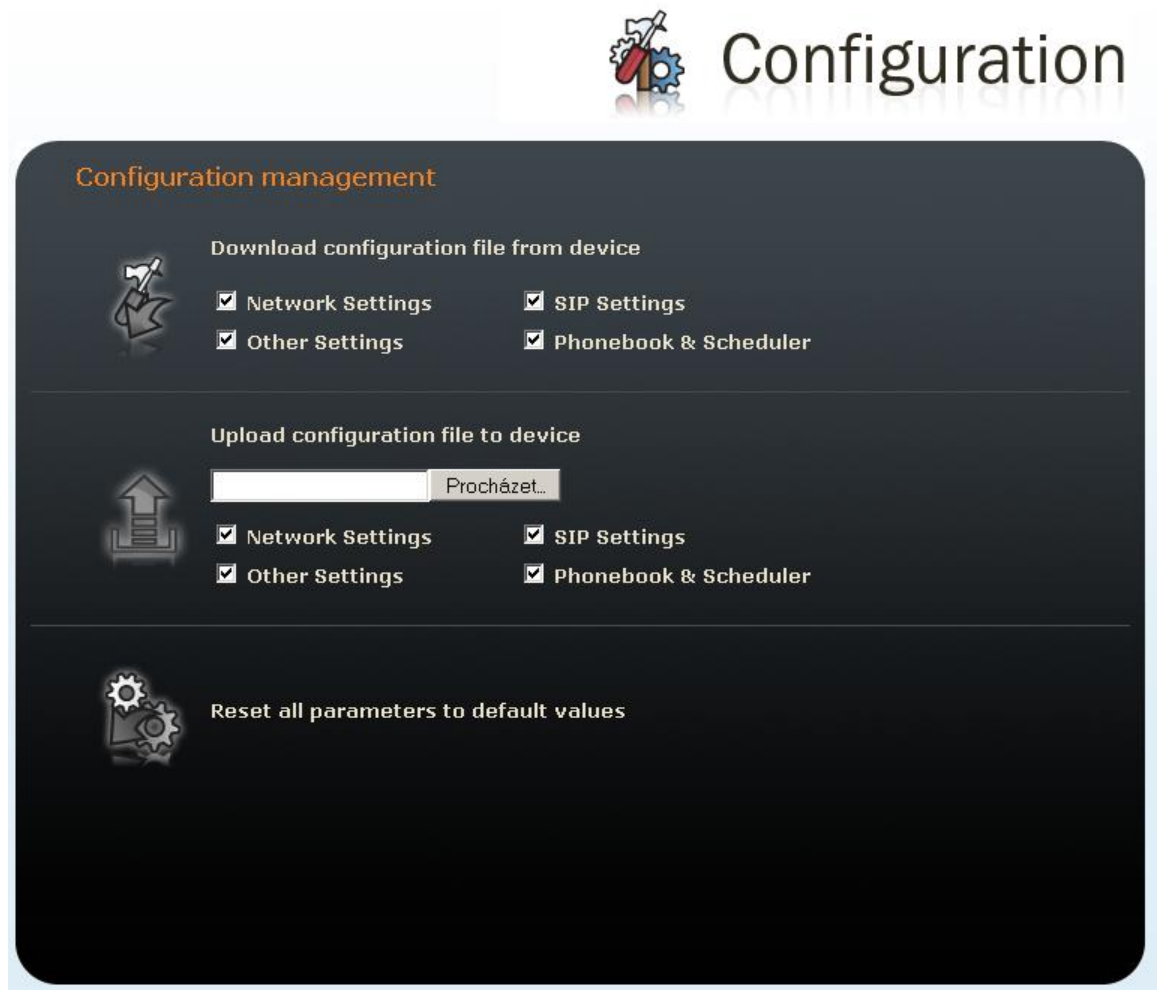
---

### Reboot device

Used for device restarting in case of changes of some configuration parameters, namely network settings, administration web interface settings and some SIP configuration parameters.


## Configuration

This menu is used for configuration downloading, uploading and resetting.




**Figure 3.40** Configuration Setting

### Download configuration from device

Used for downloading configuration from 2N® Helios IP. To save the configuration, push . Use the checkboxes to select the configuration parts to be downloaded.

### Upload configuration to device

Used for uploading configuration to 2N® Helios IP. Use the Browse button to select the configuration file and push  to upload it to 2N® Helios IP. Use the checkboxes to select the configuration parts to be uploaded. For copying the configuration file from another 2N® Helios IP device, disable the network and SIP setting downloading to avoid network collision and use of one and the same SIP configuration. For automatic configuration update refer to the Auto Update section.

### Resetting of all parameters

Resets all 2N® Helios IP parameters to default values.


**Caution**

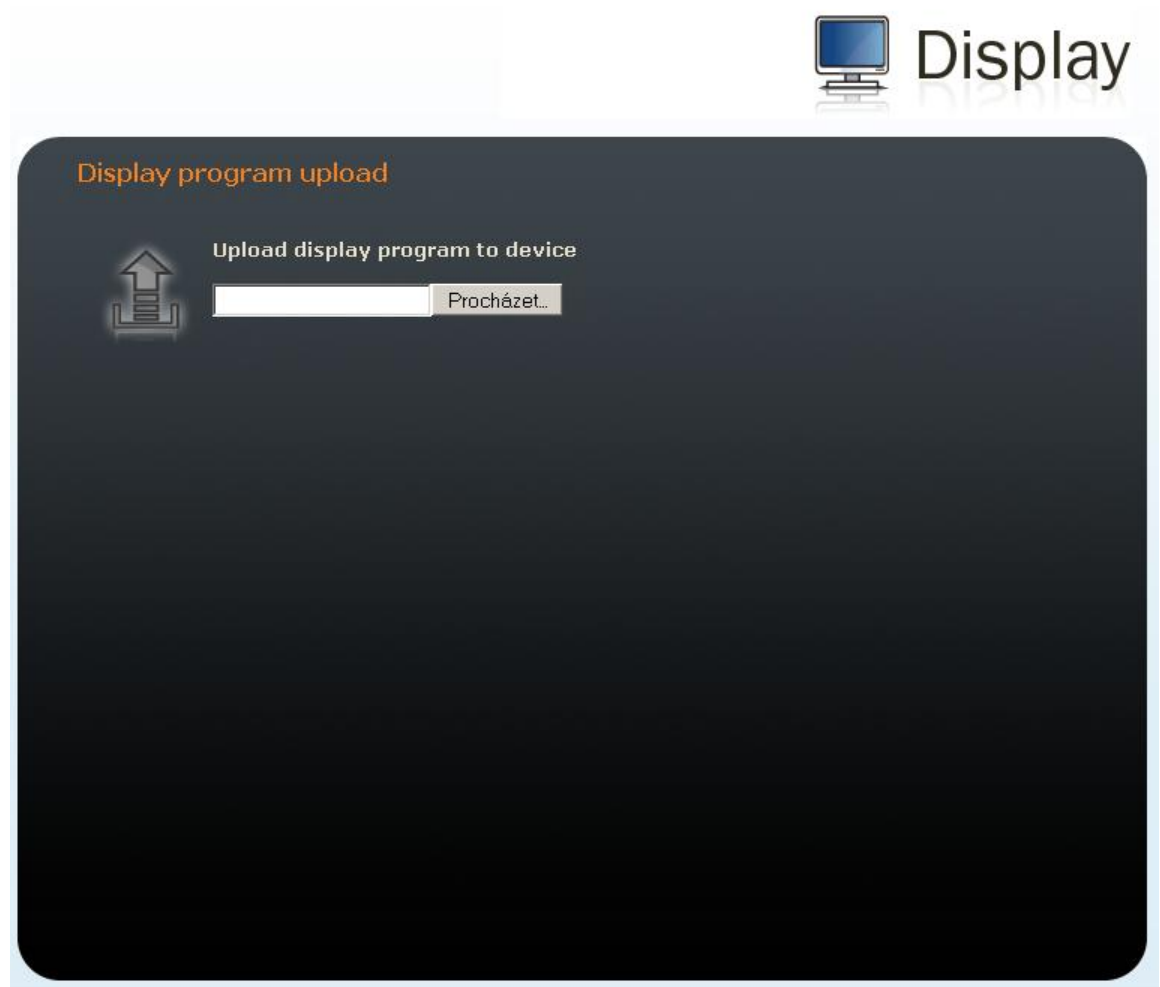
- This selection does not apply to the network settings to avoid network collision and disabling the option to configure using the administration web server. To reset the network settings to default values use the procedure described in the Switching to Default Network Parameters – Static IP Address and Switching to Default Network Parameters – Dynamic IP Address sections.

## Display Program

This menu is used for display program uploading. The display program is prepared using the configuration tool available on the attached CD. For display settings refer to the Display section.

### Display Program Uploading

Used for uploading the display program to 2N<sup>®</sup> Helios IP. Use the Browse button to select the configuration file and push  to upload it to 2N<sup>®</sup> Helios IP. If no file is selected, the current display program is removed from the memory when this button is pressed.



**Figure 3.41** Display Program Uploading

## Firmware

This menu is used for manual firmware updating.



## Manual Firmware Update


Used for manual firmware updating using the configuration web interface. Use the Browse button to select the new firmware file and push  to upload it to 2N® Helios IP. For automatic update refer to the Auto Update section.



Figure 3.42 Firmware

## Network trace

This menu helps capture incoming and outgoing packets on the 2N® Helios IP network interface. The file with the captured data can be downloaded and analysed, using, e.g., Wireshark ([www.wireshark.org](http://www.wireshark.org)). Push the Start button to launch capturing and the Stop button to terminate capturing.

The captured packets are stored in the ring buffer of the size of 4MB. Whenever the buffer is filled up, the oldest packets are deleted automatically. You are recommended to reduce the video stream transmission speed for packet capturing below 512kbps.

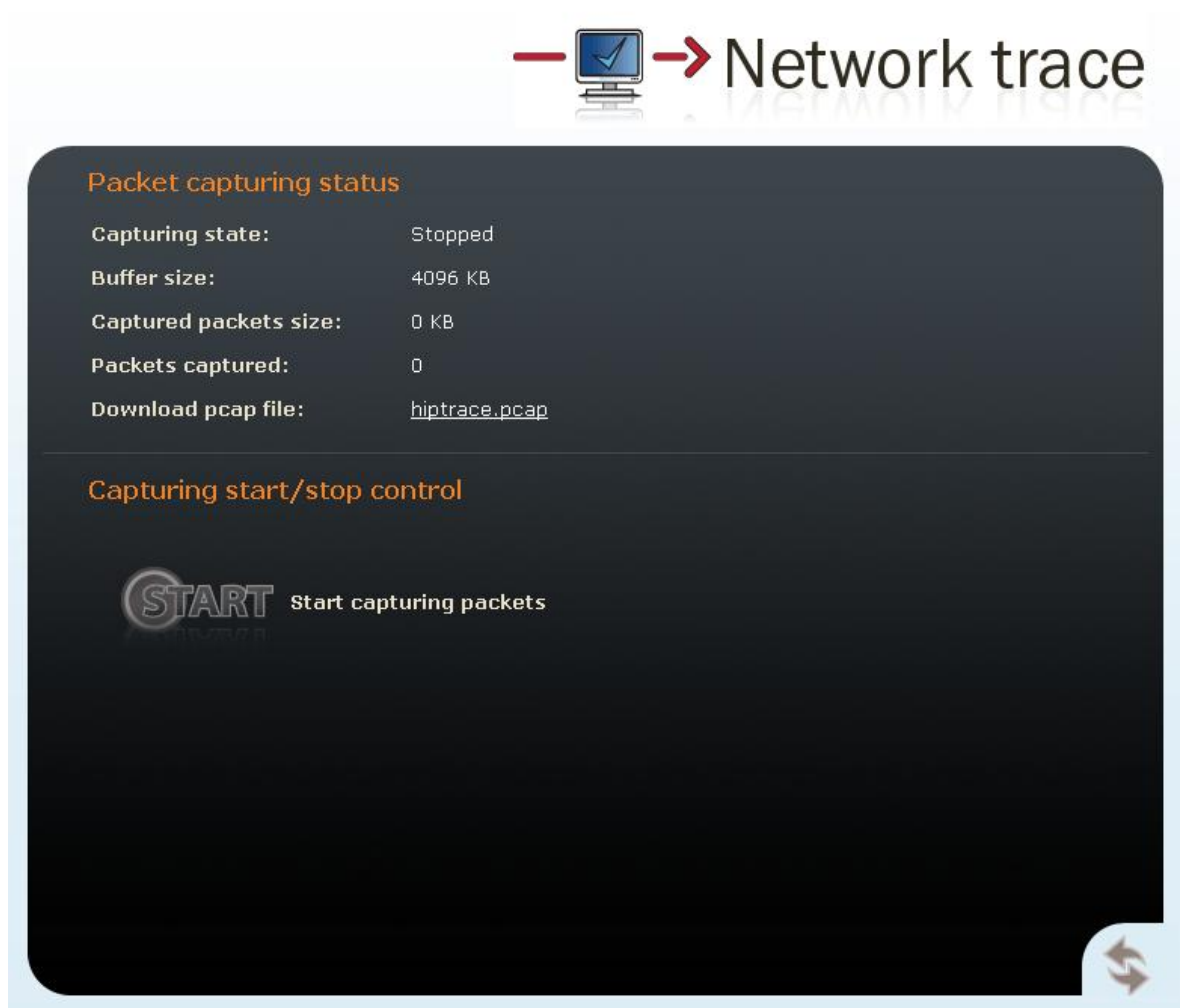


Figure 3.43 Firmware

## Licence

This menu is used for entering licence keys, order No. 9137901. Licence keys upgrade the 2N<sup>®</sup> Helios IP functionality (see the Software Facilities of 2N<sup>®</sup> Helios IP Basic Units section). Contact your local distributor for the licence key to your 2N<sup>®</sup> Helios IP.

## Licence

### Licence type

Displays the type of licence currently saved in 2N® Helios IP. The available features of your licence are displayed in the *Available features* subsection.

### Licence expiry

2N® Helios IP models of order Nos. 9137131(CK), 9137161(CK) and 9137111(CK) are distributed with the Professional trial licence limited to 800 hours. Every restart subtracts 1 hour from this value.

### Licence key

Enter the licence key received from your distributor in this field.

Licence		Available features	
Licence type:	Professional	Number of users:	999
Licence expiry:	160 hours	Number of profiles:	20
Licence key:	H0C6NR-S07G1C-GS7VPN-1SGB2J	Lock passwords:	10
(The licence key is not valid.)		Private passwords:	Yes
		User deactivation:	Yes
		User substitution:	Yes
		Automatic updates:	Yes
		Video streaming:	Yes

Figure 3.44 Licence

## Available Features

Provides details on the 2N® Helios IP features following from the applicable licence.



# 4

## Function and Use

This section describes the basic and extending functions of the product.

Here is what you can find in the section:

- 2N® Helios IP control as Viewed by External User
- 2N® Helios IP control as Viewed by Internal User
- Maintenance

## 4.1 2N® Helios IP Control as Viewed by External User

This section describes the 2N® Helios IP control as viewed by an external user (guest).

### Quick Dialling Buttons

---

By pushing a quick dialling button on the basic unit you can call to positions 1,2...6 of the telephone directory (depending on the model type). With extending modules you can use up to 54 quick dialling options.

By pushing a quick dialling button you call to the telephone number assigned to the selected telephone directory position. A call set-up is signalled by a long discontinuous tone or any other tone as defined in the attached PBX configuration.

By re-pushing the same button during calling or setting up you can hang-up, hang-up and call to another telephone number, or activate nothing as defined in the Miscellaneous section.

You can also hang-up the call any time by pushing # if the **Hang-up by #** button is enabled, refer to Miscellaneous.

### Calling to Telephone Directory Position

---

The 2N® Helios IP telephone directory may contain up to 999 pre-programmed positions. You can use the quick dialling buttons for positions 1 to 54 only. To retrieve the remaining positions, use the numeric keypad if **Quick dialling using digits** is enabled; refer to the **Miscellaneous** subsection.

**Procedure:** Enter the position number using the numeric keypad (e.g. 05, 15, 200 – two digits at least and three digits at most) and push \* for confirmation.

You can also hang-up the call any time by pushing # if the Hang-up by # button is enabled, refer to Miscellaneous.

### Calling to User-Defined Telephone Number

---

If the Telephone function enable (refer to Miscellaneous) is selected, you can call to the user-defined telephone number using the 2N® Helios IP numeric keypad.

**Procedure:** Push \*. You can hear the continuous tone from the loudspeaker. Enter the telephone number using the numeric keypad and push \* again for confirmation.

You can also hang-up the call any time by pushing # if the Hang-up by # button is enabled, refer to Miscellaneous.

## Incoming Call Answer and Reject

---


If the automatic incoming call answer is disabled (refer to Miscellaneous), a call coming to 2N® Helios IP is signalled with loud ringing. Push \* to answer and # to reject the call.

## Code Door Opening (Switch Activation)

---

2N® Helios IP is equipped with a door unlocking switch. To activate the switch enter the valid code (see Miscellaneous) on the numeric keypad.

**Procedure:** Enter the lock 1 or lock 2 activating code using the numeric keypad and push \*.




A valid code is signalled by a continuous switch activation (lock opening) signalling tone. An invalid code is announced by acoustic signalling .

## User Activation and Deactivation

---

You can activate or deactivate a user and define call routing to the user telephone numbers using the numeric keypad. For more details refer to the Telephone Directory section.

**Procedure:** Enter the user activation or deactivation code using the numeric keypad and push \* for confirmation.




A valid code is announced by acoustic signalling  or  depending on the code type. An invalid code is announced by acoustic signalling .

## Profile Activation and Deactivation

---

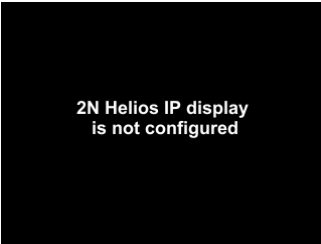
You can activate or deactivate a profile and define call routing to the telephone numbers assigned to the profile using the numeric keypad. For more details refer to the Scheduler section

**Procedure:** Enter the profile activation or deactivation code using the numeric keypad and push \* for confirmation.

A valid code is announced by acoustic signalling  or  depending on the code type. An invalid code is announced by acoustic signalling .

## 4.2 Display-Equipped 2N® Helios IP Control as Viewed by External User

Until the display program is uploaded to 2N® Helios IP, the display shows the following text: **2N® Helios IP display is not configured**, refer to the figure below. In this state, 2N® Helios IP behaves and is controlled like no-display models, see Display-Equipped 2N® Helios IP Control as Viewed by External User.



With the proper display configuration, the advertisement or electronic name tag mode is displayed upon the 2N® Helios IP power on as pre-programmed.

The display-equipped 2N® Helios IP model is controlled using the numeric keypad and quick dialling buttons. Buttons 2, 4, 6 and 8 are cursor keys in the telephone directory mode. Buttons 3 and 6 are functional keys and initiate the action displayed in the right-hand and left-hands screen corners.

### Advertisement Mode

One or more images defined in the display program are displayed in the advertisement mode. To quit the ad mode and move to the electronic name tag mode, push any quick dialling button or numeric keypad key.

### Electronic Name Tags

1, 2 or 4 name tags emulating the paper name tags can be displayed in the electronic name tag mode. Push one of the 1, 2, 4 and 5 quick dialling buttons to call the user assigned.



You can also enter the door lock opening codes and activate or deactivate a user or profile in this mode. For steps refer to the no-display 2N® Helios IP subsection. Push the quick dialling button 6 to move to the Telephone directory mode and the \* button to move to the Calling to number mode (only if the telephone function is enabled, see Miscellaneous).



## Calling to Number

If the Telephone function enable is selected (see Miscellaneous), 2N® Helios IP can be used for calling to selected telephone numbers in a standard way. Push \* in the Electronic name tag mode to move to this mode.



Push the quick dialling button 3 or the # button to return to the electronic name tag mode. To dial and display the number to be called use the numeric keypad and push \* for confirmation. Push the quick dialling button 6 to delete and re-enter the last-dialled number if necessary.

## Telephone Directory

A structured telephone directory as defined by the display program is displayed in the telephone directory mode. To browse through the telephone directory use the numeric keypad arrow keys (i.e. keys 2, 4, 6 and 8). Use the up and down arrow to move between the items. Push the right arrow to establish a call or move to a subgroup. The \* key and quick dialling buttons 4 and 5 have the same function as the right arrow. Use the left arrow to return to the superior group.

3-line telephone directory	4-line telephone directory

You can also use the telephone directory for retrieving contacts. Push the quick dialling button 6 to switch on the phone directory searching mode.

To retrieve a text use the numeric keypad. The text to be searched is displayed in the centre of the status line. To delete the last character push the quick dialling button 3.









Entering the text to be searched	Selecting one of the contacts found

The text string is retrieved on the current level and all sublevels of the telephone directory. The count of contacts found is displayed on the top line. The first 3 (or 4) found contacts are displayed in the central part of the window.

To browse through the contacts found and select the required one, push the quick dialling button 6, thus recovering the arrow function of the numeric keypad.

## Status Information

In addition to the above described modes, the 2N® Helios IP display indicates various device statuses:

 <p>Call set-up...</p> <p>◀ Hang up</p>	 <p>Ringing...</p> <p>◀ Hang up</p>	 <p>Connected...</p> <p>◀ Hang up</p>
Call being set up	Ringing – outgoing call	Call connected
 <p>Call set-up failure</p> <p>◀ Hang up</p>	 <p>No response</p> <p>◀ Back</p>	 <p>Hung up</p> <p>◀ Back</p>
Call set-up failure	No response	Call terminated
 <p>Incoming call...</p> <p>◀ Back</p>	 <p>Door opened...</p> <p>◀ Back</p>	
Incoming call	Door opened/Unlocked	

## 4.3 2N® Helios IP Control as Viewed by Internal User

This section describes the 2N® Helios IP control as viewed by an internal user.

### Receiving of 2N® Helios IP Calls

---

Incoming calls from 2N® Helios IP can be received like any other call. You can open the lock and activate or deactivate a user or profile during the call using your telephone numeric keypad. The call duration is limited to avoid unintentional 2N® Helios IP line blocking. Use the Call time limit parameter to set the maximum call duration (refer to Miscellaneous). To prolong a call push the # button on your telephone any time. A short beep 10 s before the call end signals an automatic all termination.

### Calling to 2N® Helios IP

---



2N® Helios IP allows to answer an incoming call too. To set the required parameters use the Incoming calls item, refer to Miscellaneous.

### Code Door Opening (Switch Activation)

---

2N® Helios IP is equipped with a door unlocking switch. To activate the switch enter the valid code (see Miscellaneous) on the numeric keypad.

**Procedure:** Enter the lock 1 or lock 2 activating code using your telephone numeric keypad and push \* (confirmation is unnecessary if the Lock code without confirmation option is selected, refer to Miscellaneous).




A valid code is announced by acoustic signalling . An invalid code is announced by acoustic signalling .

### User Activation and Deactivation

---

You can activate or deactivate a user and define call routing to the user telephone numbers using the numeric keypad. For more details refer to the Telephone Directory section.

**Procedure:** Enter the user activation or deactivation code using the numeric keypad and push \* for confirmation.




A valid code is announced by acoustic signalling  or  depending on the code type. An invalid code is announced by acoustic signalling .

## Profile Activation and Deactivation

---

You can activate or deactivate a profile and define call routing to the telephone numbers assigned to the profile using the numeric keypad. For more details refer to the Scheduler section

**Procedure:** Enter the profile activation or deactivation code using the numeric keypad and push \* for confirmation.

A valid code is announced by acoustic signalling  or  depending on the code type. An invalid code is announced by acoustic signalling .

## 4.4 Maintenance

A frequent use makes the device surfaces, especially the keyboard, dirty. Use a piece of soft cloth dampened with clean water to remove the dirt. You are recommended to follow the instructions below while cleaning:

- Do not use aggressive detergents (such as sand or strong surfactants).
- Clean at dry weather to make penetrated water, if any, dry up quickly.



# 5

## Technical Parameters

This section describes the technical parameters of the product.

## 5.1 Technical Parameters

### Power Supply

<b>PoE 802.3af</b>	48 V / 380 mA DC
--------------------	------------------

or

<b>Power supply adapter</b>	230 V $\pm$ 10%, 50/60 Hz / 12V DC
DC power supply	12 V / 1A DC

### VoIP

Signalling	SIP
Count of channels	2
Audio codecs	G.711 PCM, 64 kbps
Video codecs	H. 264, 64 – 2048 kbps

### Interfaces

<b>Ethernet</b>	
Connector	Terminal block plug
Network type	10/100 BASE-T
<b>Relay outputs</b>	
Maximum voltage	30 V AC/DC
Maximum current	1 A AC/DC

### Others

<b>Dimensions</b>	210×100×29 mm (h×w×d)
<b>Weight</b>	up to 500 g
<b>Operational temperature range</b>	–40 to +50 °C
<b>Coverage</b>	IP53



# 6

## Supplementary Information

This section provides supplementary information of the product.

Here is what you can find in this section:

- Regulations and Directives
- List of Figures
- List of Abbreviations

## 6.1 Regulations and Directives

2N<sup>®</sup> Helios IP conforms to the following directives and regulations:

- Directive 1999/5/EC of the European Parliament and of the Council of 9 March 1999 – on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity;
- Directive 2006/95/EC of the European Parliament and of the Council of 12 December 2006 on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits;
- Directive 2004/108/EC of the European Parliament and of the Council of 15 December 2004 on the approximation of the laws of the Member States relating to electromagnetic compatibility and repealing Directive 89/336/EEC;
- Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003 on waste electrical and electronic equipment;
- Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC;
- Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

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